

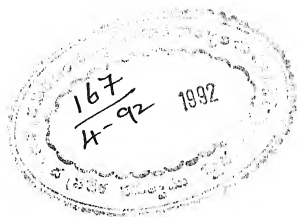
ABOUT BOOK

An efficient information support is one of the essential conditions for research activity, to obtain good results. One of the main tasks of a modern University Library is to provide required library and information support to research community, whose information needs are somewhat special and project-oriented than that of students and teachers.

In spite of significant growth in University Libraries in post-Independent India there appears a gap between the type of library facilities and services research scholars want and what the University Libraries are offering at present.

In the present analytical work, an attempt has been made, through a case study, to identify the adequacy or otherwise of the document collection, library facilities and information services that are being offered in the library, and what actually scholars need from their research point of view. On the basis of survey analysis and findings, a number of suggestions have been offered to improve the University Library system, to render a better and efficient information service to research community.

This book is useful to all professionals who are interested in the University and College Library management.



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ROLE OF UNIVERSITY LIBRARIES IN SUPPORT OF RESEARCH

(A Case Study of Andhra University Library)

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2059*

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Dedicated to

the Loving Memory of My Father
late Sri P. Satyanarayana Raju

FOREWORD

The role of a University library in supporting teaching and research has been universally accepted. This has been stressed by various educationists and commissions and committees on Higher Education all over the world. But due to various factors the adequacy of libraries for this role varies from one country to another. Many libraries experience financial constraints hindering the development of their book resources and services.

In this book, Dr. P. Soma Raju makes an indepth study of the collection, facilities and services of the Andhra University Library, Waltair. He makes his evaluation of the Library on the basis of 'users' responses to these aspects. A library exists for its users and therefore his dependence on the users evaluation for arriving at his conclusions is justified. As a case study, this is a useful effort for planning University library development.

The book is an adaptation of his Ph.D. thesis on this theme. The survey part of the book is preceded by two chapters, the first dealing with the research role of a University and the other dealing with the importance of user studies in planning and organising library services.

I hope the book will serve a useful purpose and provide guidance for University library planning and development.

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PREFACE

The progress and prosperity of a country largely depend on the availability of knowledge and the extensivity of its use. The role of scientific and technical knowledge is vital for the industrial development, economic progress, national security and welfare of the people. Because, the scientific knowledge and technical know-how are considered as basic instruments to explore and exploit the available natural resources and convert them into usable commodities. In the absence of such knowledge much of the available resources will remain either as unutilised or underutilised. Therefore, the development of advanced scientific knowledge and technical skills are essential for the progress of a nation.

Scientific manpower is an asset to the nation. The value of human potentiality is high, when compared with other sources of wealth. Therefore, it is of prime importance to produce scientific manpower required, in the country, to work in various professions and fields. And top priority should be given for the production of manpower in the national planning. Further, such a scientific manpower should be consciously developed, carefully preserved and productively utilised.

The need for the development of scientific manpower seems to be more acute in developing countries like India, which is vigorously striving to attain self-sufficiency in all fronts. Lack of scientific knowledge and skilled manpower certainly be an impediment for the country's progress and welfare of its people.

Universities, which are the main sources of scientific manpower, have a very prominent role in fulfilling this onerous task. Promotion of research work is one of the main functions of a modern university. It has the obligation to make necessary provisions and required facilities to carry out basic research work in various disciplines. In this endeavour, it also provides to scholars, the basic training in research methodology, in the field of their discipline. Such a basic training immensely helps to shape their future research career. Information support is a must for research work to obtain good results in any field.

The University libraries in India have grown in size and number, in terms of document collection, manpower and

equipment in the past few decades. However, there is a wide gap between the type of information support required and what is offered to research community in libraries. In most of the cases, university libraries have not risen upto the required level to meet the information needs of research community in Universities. Therefore, there appears a dire need to reorganise the university library system in India in order to suit to research environment in the campus.

In Western countries, quite a number of user studies have been carried in this area. However, in India such studies are carried out in a limited sphere. To fill this gap an attempt has been made to conduct a user study in the Andhra University Library, Waltair, among the research scholars (Full-time, Part-time) as a case study. This present study has designed with an aim to identify the strength and weakness of university library in terms of its resources, facilities and services from the point of view of research scholars.

On the basis of survey analysis and findings, a number of suggestions have been offered to improve the university library system to render a better and efficient information services to research community in the campus. It is also feasible to adopt suggestions in other libraries to improve the existing system upto the required level.

Chapter Division :

In Chapter I, the nature of research, the place of research in university, the role of libraries in providing information support to researchers, the growth and development of university libraries in India are discussed.

In Chapter II, a brief review of earlier user studies specifying the problem and objectives of the present study is given.

Chapter III deals with the growth and development of Andhra University Library.

In Chapter IV, the limitations of the present study, sample selection, research tools and their development – Pilot study, questionnaire development – techniques of the data collection and analysis of the data are dealt with.

In Chapters V, VI, VII and VIII, the data and information obtained with the resultant discussions are presented.

Chapter IX contains the conclusions and suggestions offered on the basis of findings.

ACKNOWLEDGEMENTS

This book is a revised version of my Ph.D. thesis submitted to the Andhra University in 1984.

I wish to record my deep sense of gratefulness to my Research Director, Prof. A. Neelameghan, UNDP Expert, for his suggestion of this problem, guidance and affectionate encouragement extended throughout the period of this project work. But for his kind help, personal interest in my academic career, I would not have accomplished this academic task successfully.

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(B)

His comments and opinions are really enhanced the value of this book.

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P. SOMA RAJU

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Chapter I

RESEARCH AND THE UNIVERSITY

Research and Advancement of Knowledge

Knowledge is what is known about entities, concrete or abstract, in the universe. The seeker of knowledge is man. It is the basic desire of a man to acquire knowledge. But for which probably the human society would not have progressed at all. Perhaps this basic propensity has given him a certain amount of mastery over the environment. Each generation, taking advantage of the knowledge gained by its predecessors, has been generating new knowledge, and thus contributing its share to the total wealth of Universe of Knowledge. "The totality of the knowledge gained by the human civilisation at any given point of time is the Universe of Knowledge."¹

The process of accumulation of knowledge is a continuous and unending activity of man. Such knowledge helps us to understand the nature and its resources, which satisfy human wants. As Ziman points out: "the knowledge about the universe is worth more than any material benefit."²

Research is the gateway to the development of theoretical knowledge, practical skills and technical know-how in any discipline. The word research is derived from a French word 'Rechercher' which means to search for.³ Observation, study and research are the three essential prerequisites for collection of data and generation of knowledge. Research involves gathering of facts and information, analysing the data in a systematic way and deriving principles that govern a given phenomenon. The findings of research generally result in the accumulation of new knowledge, creation of a new product, evolution of new methods, new techniques or processes of production. In

research work, information is obtained and analysed, new concepts are found out or existing concepts verified or modified. Sometimes, new relationships are also established.

Whether in pure or applied research, the goals may be different, techniques adopted may be varied, but the ultimate object of research is the same. "The diligent investigation of some field of knowledge in an effort to arrive at new information or a fresh interpretation of known truth. It may be abstract or practical, but whatever, the end product may be, the investigation is primarily concerned with discovery and demonstration of truth."⁴

Research, thus is a creative activity which is entirely dependent on the ability of researcher gather information and infer new ideas from a given phenomenon. The prime objective of research is to generate first hand knowledge and extend it. "The researcher's academic knowledge is essential ; creative thinking, patience, perseverance and curiosity shape his research."⁵

Research activity may broadly be divided into pure and applied research. Pure research deals with the discovery of fundamental laws or derivation of theoretical knowledge whereas, applied research generally deals with the development of new technique, new method, new design or new product which is of practical use. But theoretical knowledge is the basis for the development of new product, process or methodology. Fundamental research, therefore, is the source from which extended applications are likely to emerge. Unless one is in forefront of the fundamental work, it is hardly possible to make any contribution to applied fields.

As is known, Science is nothing but the knowledge gained through scientific method of investigation, which has two functions : It enables us to know about things and it enables us to do things. As Ziman stated : "Science is taken to mean the art of knowing. It is almost the same as research which means the accumulation of knowledge by systematic observation, deliberate experiment and rational

theory.”⁶ Thus, scientific research mostly deals with the discovery of fundamental laws and operations peeping into the working of nature. Whereas, the research in Social Sciences deals with the development of a body of principles to enable us to identify problems and also find out solutions to solve those problems that confront in the society. Sometimes, the findings of research may offer some guidelines to develop practical solutions to solve immediate problems of the society. Scientific discoveries in ancient times, were started when inquisitive people began to study about astronomy and the natural phenomenon of the universe. Earlier observations about natural phenomena were mostly attributed to superstition and magic. Thucydides, a Greek historian, first stated that the eclipse of the Sun occurred on the new moon day. The Pythagoreans later discovered the correct theory of both solar and lunar eclipses and inferred that the earth is a sphere from the shape of its shadow on the moon. In India, seers also made studies and observations, trying to formulate theory about universe and natural phenomena. As such, the discoveries of eclipses, comets solar system became the domain of the Science.

Plato and Aristotle among Greeks have made a very significant contribution in the field of philosophy, logic and astronomy through their investigations.

In modern times, the importance of research and need for the development of scientific knowledge has been recognised universally. The whole spectrum of Research and Development (R & D) activity deals with the development of scientific and technical knowledge in the field of science and technology.

Events like Industrial Revolution, World War I and World War II gave so much impetus to the research activity throughout the world. Scientific knowledge and technical skills became effective instruments not only to explore and exploit natural resources but also to convert them into goods and services to satisfy human wants. As stated in the Education Commission Report “Every advance in science deepens our understanding of nature but it also

heightens the sense of ignorance. Nature is inexhaustibly knowledgeable. Nothing is comparable to the Scientific Revolution in its impact on man's development."⁷

Most of the developed countries realised this fact and spent huge amounts of money and manpower to develop scientific knowledge and technical know-how. For instance, in U.K., the national expenditure on research and development has been increased from £20.30 millions in 1940 to £634 millions in 1961-62.⁸ Such expenditure might have increased by many times now. Similarly, U.S.A. has increased her expenditure on R & D from \$12,500 millions in 1950-51 to \$25,000 millions in 1968.⁹

Of late, the developing countries having realised the need for and importance of scientific research, are spending considerable amounts on R & D. In India, the National Expenditure on R & D, has been increased as follows :

Year	Expenditure (in Millions)
1951-52	122.00
1973-74	2,460.00
1977-78	3,986.00
1980-81	7,261.00

The percentage of expenditure on R & D to the GNP has increased from 0.21% in 1958-59 to 0.43% in 1970-71.¹⁰

The annual plan allocation (1982-83) on scientific research was Rs. 2,281 millions. The percentage of expenditure on R & D to the GNP has increased to 0.5% in the Fourth Five Year Plan.¹⁰

Research and Social Development

Man strives to acquire knowledge to make use of the vast natural resources available to him. Thus, every piece of knowledge so acquired enables him to explore the natural resources and convert them into commodities which satisfy needs of life. Moreover, with scientific knowledge and advancement of technology, he is in a position to predict the future and prepare for it. Thus, they are considered as key factors for the progress, welfare and survival of

the human race. "Science has radically transformed man's material environment. Science is universal and so can be its benefits. Its material benefits are immense and far-reaching - Industrialisation of agriculture and release of nuclear energy to mention two examples - but even more profound is its contribution to culture." ¹¹

Thus, knowledge liberates man from the shackles of ignorance. Knowledge extends understanding and decision-making capacity of man. It is possible for him to enrich material wealth, improve standard of living making the life more comfortable.

Therefore, the scientific knowledge changes man's activity drastically.

As stated earlier the scientific discoveries started when our ancients began to study about universe and natural phenomenon. In the beginning, use of science for practical use came through superstition and magic. Many facts in Chemistry were thus known, even though no theory or general laws were deduced.

In the Middle Ages, the two discoveries Gunpowder and Mariner's compass had made a great impact on human activity and formation of States in the World. The gunpowder enabled the rulers to subdue their rebellious subjects, conquer states and establish order and respect for law in the State. Similarly, the discovery of mariner's compass made possible to open sea routes and establish colonies. Because of its sea power the west was enabled to establish colonies in Africa and Asia, developing their trade and commerce.

In the same way, the invention of steam power, in the eighteenth century, brought a sweeping revolution in the industrial sector and its impact spread to other fields.

The impact of inventions like Telegraph and Electricity has been immense and far-reaching to mankind. The telegraph made possible to send messages to far-off distances, thereby to get in touch with the people irrespective of the distances. The communication system today, is a key

factor in the modern society. The use of electricity became a part of our daily life. One can hardly imagine modern life without electricity. Thus, there are so many inventions and innovations like internal combustion engine which has a terrific impact on man's activity and his material gains. "Man existed for about a million years. He has possessed writing for about 6,000 years, agriculture somewhat longer, but perhaps not much longer. Science, as a dominant factor in determining the beliefs of educated men, has existed for about 300 years ; as a source of economic technique, for about 150 years. In this brief period, it has proved itself an incredibly powerful revolutionary force." ¹²

Therefore, research activity which is the key factor for the development of scientific and technical knowledge, happens to be an important activity. The results of research - new innovations and inventions - are the stepping stones by which society climbs to the more abundant and comfortable life. Thus, the progress and prosperity of a society largely depends on its capacity to produce scientific and technical knowledge and use of such knowledge in a productive way.

Since Nineteen Forties, there has been a tremendous upsurge in the development of research activity in the field of science and technology throughout the world. Such a sudden increase in the research activity is to a great extent due to World War II, the population pressure, need to develop new methods and techniques to produce more goods and services. It could also be reason why some countries intensify research activity with a desire to develop advanced technology and dominate other countries in the fields which have strategic importance in the progress of industrial development.

Today, most developed countries are dominating the developing countries because advanced scientific and technical knowledge, gold reserves, food production capacity, know-how developing capacity are in their hands. Some developing countries are also investing money and

manpower to develop their own indigenous technology in scientific organisation and research laboratories.

Similarly, growth of research activity in Social Sciences is also significant during the last few decades. Greater number of social scientists are involved in identifying social problems in the present environment and in finding out relevant solutions.

Research activity has thus become a part of national economic programmes in every country. Investment on research and development is considered as a necessary input in the process of economic progress. Facilities for higher education and research activity are considered very important in the process of national development. "In science-based world, education and research are crucial to the entire developmental process of a country. The progress and welfare and security of a nation depend critically on a rapid, planned and sustained growth in the quality and extent of education and research in science and technology."¹³

Research in Universities

Main objectives of a modern university are imparting advanced knowledge to postgraduates in different subject fields and providing necessary facilities to carry out research activity in specialised fields of knowledge with a view to generate new knowledge. Eventhough the basic task of education is the cultivation of mind, acquisition of special skills and advanced theoretical knowledge, which provide capacity, confidence and faith in performing the given task successfully, it should also provide ideas about nature, society and human values. "The basic task of education is to promote powers of mind, acquisition of special skills and advancement of knowledge and to generate in the young generation, a sense of purposiveness and maximum dedication, confidence in themselves and faith in the country's future."¹⁴

University has, therefore, such an onerous task of generating subject specialists, whose services are quite

indispensable to the nation. The investment in higher education is considered most profitable in view of the overall development of a country. Higher Education in scientific disciplines is necessary in a modern society to produce competent technical exports.

While imparting advanced knowledge, teachers inculcate inspiration among scholars to find new ideas in the field of their specialisation. Scholars with enthusiasm join in research with an aim to obtain new knowledge and technical skills. Of course, it is also their objective to obtain their Ph.D. degree which is considered as the first research degree. Through research, the student will, have an opportunity for independent work in the laboratory and obtain basic training in research methodology. The main difference between a college and a university lies in the latter's emphasis on research activity. The University, while making direct contribution to obtain advancement of knowledge, serves as the principal training ground for those who carry on investigations for the Government, industry and other fields.

Besides, teachers in the University departments, generally engage themselves in some type of research work and keep their minds fresh and sharp in the area of their specialisation. Their awareness of current trends and developments helps them to refine their teaching work with latest techniques and methods. Otherwise, it is not possible to obtain good results in the teaching work. A University teacher would have to rise upto a high standard of attainment over and above that of a mere possession of information. Mere capacity to communicate facts to students does not suffice but a good teacher must be able to inspire creative activity among them. The mind of a student can be activated only when the mind of the teacher is active. As stated in Education Commission Report, "their (Teachers) principal object is to deepen Man's understanding of the universe and of himself in body, mind and spirit and to disseminate this understanding throughout society and to apply it in the service of mankind."²⁵ In this connection Radhakrishnan says : University teachers have a

privileged life. They have the leisure and a life of tranquillity which are essential for research. They have security of tenure and free from battles of life, which are not possible in other professions. In grateful acknowledgement for these privileges, he should deliver to the society new ideas, newer methods in relation to their research work, by keeping himself efficient, punctual and devoted to duty.

Moreover, teaching at advanced level should always be supported by research to develop new techniques in teaching and newer methods and practices in learning. So also, for research academic knowledge is essential. Therefore, teaching and research are inseparable and go together. In Universities, teaching and research are mutually supporting and essential activities. "Teaching and research are mutually supporting activities. High quality of teaching in science is possible in research environment. Research is essential for its sustenance." ¹⁶

Thus, Universities are contributing to the advancement of knowledge and are also serving as training ground for research scholars to provide basic research methodology in specialised fields. With the basic training obtained in the universities, scientists carry out further research work in R & D departments of Government Laboratories and Industrial concerns. In fact, the success of their research careers mostly depends on the training they had in Universities. Therefore research activity in Universities is considered as vital aspect for the orderly progress of a nation. It is the cherished task of the Universities to make a productive utilisation of investment made on research and good results out of research work. As Neelamegham points out, "the quality of the research work done in the country will to a large extent depend on the quality of the training given in the Universities." ¹⁷

Therefore, the major objective of a University is not only to impart advanced knowledge to postgraduates, but also to provide required facilities to carry out academic research and generate first hand knowledge. The real greatness of a University lies in that how it combines

teaching and research activity. Through this combined function, the University assumes a position of leadership in the efforts to raise the educational and cultural levels of the society. Here, the University serves as the head of the entire educational system in the State and a final authority on all matters in the field of education. Academic research is thus valuable in many ways for the society. How much it contributed to the actual production process in the industrial field is a different aspect, but it adds more to the production of skilled manpower in the country. Dr. S.S. Bhatnagar, presiding over the Annual Meeting of National Institute of Sciences at Allahabad on 4th January, 1949, rightly observed : "While National Laboratories and Research Institutes will play an ever increasing part in furthering the application of science to industry, it is clear that ultimately we have to depend on the Universities for an even and constant flow of scientific workers and leaders imbued with zeal and zest for research. Universities have been rightly recognised as the fountainheads of knowledge and it is in their free atmosphere that we should look forward to vigorous pursuit of fundamental research."¹⁸

University research facilities are often utilised in the solution of community problems and service to the community is offered on the campus through special programmes and short term courses. University teachers are involved in the community activities, who very often participate in the extension activities, correspondence courses, radio talks, adult education programmes, etc., in the furtherance of education and welfare of individuals and community in general. At the same time, Universities are also actively participating in the cooperative ventures in the field of industry and business, providing consultancy services to the Government and other organisations. Thus, the role of the University in the promotion of research activity becomes an important adjunct because of one or more of the following reasons :

1. Fundamental research is being carried out in the Universities to generate new knowledge ;

2. Scientific manpower, required for the country, is being produced in Universities ;
3. Research projects are entrusted by various private and public organisations to the teaching staff ;
4. Sometimes, the faculty members are providing consultancy service to those who are in need of it ;
5. More often, academicians are included in decision making committees by the Government ; and
6. Now-a-days, academicians are also actively participating in social activities, providing guidance, conducting surveys to identify social problems, etc.

Thus higher education and research activity which are taking place in the Universities are influencing the private and public sector organisations. Therefore, Universities have become institutions, where knowledge is discovered, intellectuals are bred, scientific manpower is produced and sometimes, technical know-how is developed. In Western countries, "University is known as IDEOPOLIS, a city of intellectuals. The industries are developed around the place where research is being done - University Campus." ¹⁹

Research in Indian Universities

There is evidence to show that the Universities in ancient India, Nalanda, Takshasila, Vikramsila, Odantapuri, Vallabhi and Kanchi in South, flourished as leading centres of higher learning. They used to teach Vedas and Vedangas. The curriculum at these centres of higher education had subjects like medicine, surgery, astronomy, astrology, agriculture, accountancy, archery and snake-charming, etc. Nalanda, which was a Buddhist centre surviving till the end of twelfth century, appears to have subjects like Mahayana Buddhism, Jainism, Systems of philosophy and logic, while Takshasila flourished till the fifth century A.D. These institutions attracted teachers and pupils from all over the country and also from different parts of the world. "These ancient centres of learning were as a rule in tune with social milieu and they aimed to attain integral educa-

tion including the claims of life and of mind harmonising matter and spirit.”²⁰

India is a vast country with rich ancient cultural traditions. It also maintained good traditions in the field of higher learning and research. Significant contributions had been made to the advancement of knowledge by scholars, philosophers and religious leaders. The works of Kalidasa in the field of literature, Adi-Sankara in the field of philosophy, Aryabhata in the field of mathematics and science and Charaka in the field of Medicine have made important contributions, which fact is well recognised all over the world even today.

But these institutions of higher learning did not survive in the later periods because of pressures of successive invasions of Islam and of the West. In the medieval periods, to some extent Mohammedan rulers established colleges (Madarsahs) at Lahore, Delhi, Rampur, Lucknow, Allahabad, Jaunpur, Ajmir and Bidar though on sectarian grounds. The curriculum of these colleges included subjects like grammar, rhetoric, logic, law, geometry, astronomy, natural philosophy, metaphysics, theology and poetry. Sher Shah, a Muslim ruler, was a student of Jaunpur College where he studied history, philosophy, Arabic, and Persian literature. But these institutions disappeared by the end of sixteenth century having become obsolete.

However, by the end of eighteenth century, Warren Hastings, the First Governor-General, founded the Calcutta Madarsah in 1781 and included the course of study on traditional pattern. Similarly, Sir William Jones, who organised the Asiatic Society of Bengal in 1784, and Jonathan Duncan who established the Sanskrit College in Benaras in 1792, also propagated the spread of education in India on traditional lines.

It was only in the middle of the nineteenth century, the then Government, in accordance with ideas and efforts of educationalists of the day, Charles Grant, Minto, Raja Ramamohan Roy and Lord Macaulay, began providing educational facilities on Western lines to its subjects in India.

In 1815, a course of education in English literature and modern science through the medium of English language was started in the country. Science, thus, was introduced into the Indian educational system in the nineteenth century under the British aegis. But the real growth of academic education and research started only in the beginning of the twentieth century.

In 1855, Sir Charles Wood gave several recommendations in his report on Higher Education to the Court of Directors. This is known as 'Woods Despatch,' which can be considered as a landmark in the history of Higher Education in India. Indeed the Despatch laid down the foundation for Indian Education System that has since been bred and reared. It did set forth a scheme of education that is far wider and more comprehensive than any one suggested so far. For the first time, Wood gave a key position for the development of Universities in India. The Court of Directors agreed with his proposals and, accordingly, three Universities were established at Calcutta, Bombay and Madras in 1857, the year of the First War of Indian Independence. These Universities had at first only four faculties—Arts, Law, Medicine and Engineering, while the faculty of science was added later. The 'Woods Despatch' of Court of Directors, 1854, is otherwise described as "Magna Carta of English Education in India."

In 1882, the then Government of India appointed the Indian Education Commission under the Chairmanship of Mr. W.W. Hunter "to enquire into the manner in which effect had been given to the Principles of the Woods' Despatch of 1854 and suggest measures as it may think fit desirable in order to the further carrying out the policy there laid down."²¹ It recommends gradual change of State control over the higher education and handing over of colleges and schools to a body of Indians provided there was reasonable prospect that the cause of education would not suffer through the transfer. As a result of this there had been a rapid expansion in the next two decades. The number of colleges increased from 75 in 1882 to 179 in

1902. Similarly, the number of students increased from 5,399 in 1882 to 12,424 in 1892.²²

But these Universities served as purely examination bodies on the model of the University of London, till the beginning of the present century. The then Government of India appointed another Indian Universities Commission in 1902 under the Chairmanship of Sir Thomas Raleigh, who was a Member of the Executive Council of the Governor-General. In its report, it recommended that the Universities should take up teaching and undertake research as well, and also stressed the need for various governing bodies in the universities. The Universities Act of 1904 embodied the main recommendations of the Commission. It made a provision to constitute governing bodies and provided a statutory recognition to them. This also includes a provision to appoint University professors and to do all acts which tend to the promotion of study and research. Thus, this Act is considered as beginning for the development of advanced learning and research in Indian Universities. This created an opportunity for Universities to include the research programme as one of its functions.

The then Government of India, in its resolution on education, also accepted the need for establishing more residential Universities, wherever it is possible. As a result, six more Universities came into existence between 1913 and 1921. However, it is appropriate to mention that great people like Ishwar Chandra Vidyasagar and Pachayappa Mudaliar and societies like Deccan Educational Society of Poona, the Arya Samaj in Punjab and the National Council of Education in Bengal did much for the development of higher education in India.

Similarly, a new era in the history of University education in India commenced with the publication of the report of the Calcutta University Commission in 1919, under the Chairmanship of Sir Michael Sadler, the then Vice-Chancellor of the University of Leeds, to enquire into conditions and prospects of the Calcutta University. It made a strong plea for the establishment of the unitary Universities

and also clarified about the academic and administrative functions of different bodies in the Universities. It also recommended that libraries be strengthened and that the training be given to the students and teachers in the use of the library. It also recommended that the teaching function of the Universities, should be supported with adequate facilities for libraries. As a result, a number of unitary universities came into existence in 1920's. Teaching and research activity on a Western Model were extensively carried out in Universities during this period. From then onwards, Universities became the leaders of scientific research in India.

Besides, some individual scholars conducted research work at isolated colleges in India, and obtained admirable results in some cases. To mention a few of them, Sir R. G. Bhandarkar at Poona, Sir Ganganath Jha at Allahabad, Professor Kuppaswami Sastri at Madras, Sir J. C. Bose and Sir P. C. Ray at Calcutta, Colonel J. Stephenson and Professor S. R. Kashyap at Lahore. Most of the research work was done in Government Research Institutes. And no attempt was made to train the students in research methodology in Universities. It was only in 1914, Sir Asutosh Mookherjee founded the first postgraduate department at the Calcutta University and placed postgraduate training and research there on proper footing.²³

The Montford Act of 1920 transferred the subject of education to Indian Control (Constituent states). Then the University education also came under the control of Indian Ministry. Some of the Ministeries of Education in provincial States enacted University laws as per the social needs in their States.

For instance, Sir A. P. Patro, Minister of Education in Madras Province, enacted the Madras University Act in 1923, incorporating several of Sadler's recommendations in it. It also included the provision for training of persons for civil services, teaching and research as some of its functions. Thus, the transfer of education to Indian control in 1921 helped in many-ways to the development of higher education and research activity much faster than before in

Indian Universities and during next 26 years nine more Universities were established. Despite the handicaps of finance and equipment, teachers with sincerity and dedication produced rich results in sciences. It may be said that the growth of scientific research in Universities was most productive in India during 1940's.

After World War II, the then Government of India sought the services of Prof. A. V. Hill of the Royal Society of London as a part of India's post-war reconstruction plan, to make recommendations in the organisation of scientific and industrial research in the country.

After Indian Independence in 1947, the academic problem assumed a new shape. The Universities, as advanced educational institutions, assumed a wider conception of duties and responsibilities. They had to provide leadership in politics, administration, commerce, industry and other professions by producing competent qualified experts in those fields and to impart required basic knowledge and technical know how, to free their countrymen from the shackles of poverty, disease, hunger and ignorance. As stated in Radhakrishnan Education Commission Report, "It is for the Universities to create knowledge and train minds who would bring together the two material—resources and the human energies."²⁴

The Government of India, realising the importance of higher education for the country's overall development and need for progress in all fields, had given top priority for the development of education in the Free Independent India. In order to know the existing situation and to make future plans, it appointed several committees and commissions to investigate at various levels of education. In the field of higher education also, the Government of India, Ministry of Education, appointed a University Education Commission under the Chairmanship of Dr. S. Radhakrishnan in 1948 "to enquire and report on Indian University Education and suggest improvements and extensions that may be desirable to suit present and future requirements of the country."²⁵ Similarly, the Government of

India, Ministry of Education, appointed Education Commission, under the Chairmanship of Dr. D.S. Kothari in 1964, "to advise the Government on the national pattern of education and on the general principles and policies for the development of education at all stages and in all aspects."²⁶

In both these reports, much stress had been laid down for the study in advanced fields of knowledge and research activity. Also both the commissions recommended that necessary facilities should be provided to carry out all academic programmes. Among the facilities, top priority has been given for libraries and their proper development.

The Government of India also established University Grants Commission in 1956 (The U.G.C. Act of 1956) to cater to the financial needs of the Universities in India. It was a turning point in the history of Universities in India. The U.G.C., since its inception had been playing a very significant role in the growth and development of higher education in India. The pace of growth and development in the field of Higher Education has been extremely rapid in the last few decades. Higher Education witnessed a great upsurge in its growth during this period. Such a growth is particularly significant since the inception of U.G.C. The following data reveal this phenomenon :

Year	Universities	Deemed Universities	Colleges	Student Enrolment
1951	30	--	762	4,00,052
1961	46	5	1,783	9,80,380
1971	86	9	3,896	28,42,314
1981	118	13	5,012	31,36,986
1988	139	14	(not available)	

There were only 30 Universities and 762 colleges in 1951. The number rose to 139 Universities, 14 Institutions deemed as Universities, and 5,012 colleges in 1988. The increase in the number of institutions in the field of higher education has shot up by four times than what it was in 1951, over a period of three decades.

Similarly, the student enrolment in the field of higher education has increased almost eight times from 4.00 lakhs in 1951 to 31.36 lakhs in 1981. In general, there is an increasing trend in the student enrolment for the last few decades and such a growth is quite significant in 1960's when compared to other decades. This may be due to the reason, that the Government felt the need for the expansion of education, in view of the prevailing conditions after Independence, even in purely quantitative terms, which would lead to an accelerated growth of national economy. Consequently, there took place a spectacular growth in the number of educational institutions.

The student enrolment at the postgraduate level has increased from 21,903 in 1951 to 3,07,084 in 1983 (estimated). Similarly, enrolment in research has also increased from 1,774 in 1951 to 38,181 in 1983 (estimated).²⁷

The total number of teachers along with students and institutions has increased from 23,880 in 1951 to 2,11,751 in 1983 (estimated).²⁸ The growth of teachers is proportional to the growth of enrolment. The annual growth rate of teachers was 8.7% and the corresponding growth rate of students was 10.1% during the period 1963-64 to 1973-74.²⁹ Therefore, there was a sudden rise in the growth rate of higher education in India, in the last few decades.

Earlier, the universities in India suffered due to lack of finance, guidance and equipment to carryout research activity in the departments. As observed in the education Commission Report, the expenditure made on research in universities was low. And it stressed the need to increase financial assistance substantially.

Accordingly, the U.G.C. placed grants ranging from Rs. 50,000 to Rs. 1,00,000 at the disposal of each university, in addition to the usual grants, to directly support research work in universities. It provided developmental grants to universities to support teaching and research activity. The total expenditure on teaching and research thus

increased from Rs. 981.96 lakhs in 1966-67 to Rs. 3,469-40 lakhs in 1976-77. As a result of this policy, the research activity in the university departments considerably increased in the last decade. The enrolment in research has increased from 1,774 in 1951 to 5,249 in 1961, 14,995 in 1971, and this figure rose to 38,181 in 1983. Similarly, the number of Ph.D. degree awards increased from 815 in 1961-62, 2,461 in 1971, to 6,289 in 1981-82.³⁰ This trend shows that there has been a significant increase in the research activity in the university departments in the last decade, particularly 1970 onwards.

Library and Information Support to Research

While considering research as a basic activity for the advancement of scientific and technical knowledge, the support of library sources and information services may be considered as an essential facility for research work.

Since research is mainly concerned with the development of knowledge, it is essential for scholars to be aware of the past as also, the ongoing activity in the area of their specific interest. As such it is necessary to keep themselves continuously abreast of the latest developments in the areas. Thus, generally scholars would be interested to have all information that is relevant to the topic under consideration in whatever form, language and place it is published. The support of such an adequate library service enables them to obtain information without wasting much of their research time. Bhatia observes: "Research entirely depends upon the adequate provision of availability of the information sources at the right time. In the absence of such an adequate information, the research work leads to duplication of the work, wasting of time and human potentiality which are very valuable."³¹

Indeed, an exhaustive and expeditious library and information support would certainly help scholars in one or more of the following ways :

1. in the selection of research topic ;
2. in the redefining or further specification of the research topic already selected for investigation ;

3. further classification of points and receiving guidance in the work ;
4. in obtaining new ideas ;
5. in using new techniques and methods that have recently developed in the field ;
6. in avoiding unnecessary and unintended duplication of the research work already done elsewhere ; and
7. in supporting or substantiating the research results.

But the compendium of knowledge which is embodied in the form of documents is vast in scope. The growth of knowledge is multidimensional and research activity took great strides throughout the world. As a result, there has been a tremendous growth in the universe of knowledge in the universe of subjects, in the development of new specialisations and output of relevant literatures. This ultimately lead to a great 'Information Explosion.' Thus, the growth of knowledge over the past decades has reached a stage where it becomes practically an impossible task for any single researcher, to scan through the literature published, even in his specific subject areas. As estimated by Toffler "Prior to A.D. 1500, Europe was producing books at a rate of 1000 titles a year (Optimistic approach). $4\frac{1}{2}$ centuries later, by 1950, the rate had accelerated to 1,20,000 titles a year. It means what once took a century, it took only 10 months and by 1960, the same work would be completed in $7\frac{1}{2}$ months. Thus, by mid-1960, the world's output of books (including Europe) was 1000 titles per day."³²

An idea of this output is also given by Holm, who says that "each day 300 to 400 millions of strokes record printed information."³³ Further he tells us "more than 100 millions of documents are stored in libraries throughout the world with an annual increase of 30,000 words per second."³³

In India, the annual book production is as follows :

Year	No. of Books
1950	12,689
1955	18,559
1960	10,741
1965	11,526
1970	13,740
1976	15,802
1980	13,088
1982	17,000 ³⁴

If we consider Government publications alone, the U.S. Government generates 1,00,000 technical reports annually. Of the 2 million scientific and technical articles produced in the world each year, 4,50,000 are published in the U.S.A.³⁵

Coming to the growth of periodical literature, the figures run over the past few centuries are even more staggering. The following table shows the growth of periodicals in the world as Price estimated :

Year	No. of periodicals
1750	10
1800	100
1850	1,000
1900	10,000
1968	1,00,000 ³⁶

with an annual increase of 12 to 16 hundred periodicals.

Price further states, that because of the mortality of scientific journals, the number that survived at any given date was about 60% of the number that started out. The number of scientific journals has grown by a factor of ten during every 50 years starting from 1750.

It was also stated that there are 35,000 periodicals in science and technology alone and around 3,500 abstracting journals in the world. The number of scientific journals

and articles is doubling, like industrial production, in the advanced countries roughly every 15 years.³⁷

The growth of knowledge is prevalent in most subject fields. For instance, the following figures taken from Chemical Abstract Service substantiate the growth rate in a field like Chemistry.

The Chemical Abstracts Service, which was started in 1907, has published to-date 3.5 million abstracts. Information on 1,00,000 new chemical compounds is reported each year to add to the total of 3 to 4 million different chemical compounds known today.³⁸

Prior to Gutenberg, only 11 chemical elements were known. It took nearly 200 years to discover the 12th one (Antimony). Had the same rate of discovery continued, we would have added 2 or 3 elements to the periodic table since Gutenberg. Instead, by 1900, 70 additional elements were discovered and since 1970, the rate of discovery has been one for every 3 years.³⁹

As stated earlier, such a sudden upsurge in the growth of literature is due to the fact that research is being carried out throughout the world and the number of scientists involved in this activity is large. It is estimated that "more scientists and technologists are working today than ever before. Actually, 80 to 90% of the scientists that have ever lived in the world are alive."⁴⁰ Naturally, they are engaged in one or other type of research work and their research results will be published in some form of document. Besides, such literature is being published in different languages in different places by different publishers.

There has been a significant awareness and realisation among people about the value of education in the present society. As a consequence, students, teachers and educational institutions have been growing in size and number. Similarly, the demand for information is increasing from people working in various fields and professions. Such a demand for information is particularly more from those

who are engaged in research work. Their information needs are specific and intensive.

Here, the crux of the problem is the control of the ocean of literature to enable one to find out relevant information. The control of literature becomes very crucial because of one or more of the following reasons :

1. vastness of literature ;
2. 'seepage' factor due to inter-disciplinary nature of subject interests ;
3. language barrier ;
4. lack of awareness of the existence of knowledge ;
5. non-availability of the document in the library ; and
6. lack of opportunity to make use of existing documents.

As Bush has described it, "the summation of human experience is being expanded at a prodigious rate, and the means we use the threading through the constant maze to the momentarily important item is the same as was used in the days of square-rigged ships."⁴¹

As Swanson has noted with regard to the chemical science, "only one per cent of the articles published in chemistry are read by any one chemist."⁴² Similarly, the American Psychological Association indicated that over half of the articles appearing in core psychological journals are read by 200 or few Psychologists.

Thus the control of literature and the identification of information in the ocean of literature became crucial and menacing for the scientists who are using the information and to information scientists who are handling with it.

But for a scientist, it is not worthwhile to waste his valuable time to scan through the literature to find required information. He is supposed to spend his time on research work productively. As Neelameghan states, "research potentiality of a scientist is of utmost importance for the progress of a nation. It should be consciously developed,

productively utilised and carefully preserved.”⁴³ In this respect, the library has a vital role to play in the acquisition, processing and dissemination of information to clientele. It is their responsibility to provide information support to research work as ‘Partner-in-Progress.’ Therefore, the prime object of a library is to provide right information to the right user at the right time. Moreover, the library is expected to provide such information support throughout the period of research, in the form and fashion needed, in spite of the fact that the growth of knowledge is in constant flux.

The university has a clear responsibility in this regard and specific objectives to achieve. In universities, the information needs of researchers are quite different and distinctive from that of postgraduate students and teachers. Here, scholars are required to refer to all nascent information relating to their specific subject areas. Therefore, university libraries must acquire all documents both on macro as well as micro levels for providing required support to researchers. Thus, the library has the onerous task of acquiring all relevant literature and supply it to scholars working in different departments.

It is, however, by no means an easy task, to keep all scholars abreast of the latest developments of their specific subject fields. Thus, providing an easy access to the document collection and communicating the required information becomes the prime function of a library. In order to meet the information needs of the research community, the library profession has developed appropriate services like Documentation Service, Selective Dissemination Information (SDI) and Current Awareness Service (CAS), etc. These services are particularly suitable for project-oriented and personal-oriented research programmes. With the help of these developed services, the library profession is now capable of churning the ocean of literature and picking up relevant essence of information. Library professionals are now-a-days in a position to pick up pertinent information from the vast documentary sources available to provide pin-pointed, exhaustive and expeditious information to research community.

Weinberg advocates : "one of the major opportunities for enhancing the effectiveness of our national scientific and technical effort and efficiency of Government management of R & D lies in the improvement of our ability to communicate information about current research efforts and results of past efforts. Strong science and technology is a national necessary and adequate communication is a pre-requisite for strong science and technology." ⁴⁴ He also advises the establishment of science information centres and the utilisation of services of information scientists.

University Libraries in India

In ancient India, relevant traditions had been maintained in the field of education for the advancement of knowledge by instituting libraries. Since Vedic times, education and advancement of knowledge were considered as source of light for self-enlightenment. It is stated in scriptures, that there is no eye which is equivalent to education. In ancient India, rulers maintained Viharas to impart education to people. They also maintained full-fledged libraries in those educational institutions. Nalanda, Takshasila and Kanchipura were considered as World renowned advanced educational centres, where libraries were maintained in separate monumental buildings. Those libraries were said to have possessed valuable collection of documents on various subjects such as medicine, religion, philosophy and ethics, etc. It is a clear proof of the importance attached to acquisition, recording and preservation of knowledge. Nalanda University is said to have had huge library known as Dharam Ganj consisting of three buildings called Ratnasagara (Ocean of Gems), Ratnadadhi (Sea of Gems) and Ratnaranjika (Collection of Gems). The libraries in ancient universities were managed by the educational committees of Viharas. Thus, it may be stated that the importance of libraries along with educational institutions was realised and maintained in universities from times immemorial in India. The history of university libraries in India is closely connected with the development of higher education.

In modern India, with the introduction of English education, the higher education in India was started with the inception of three universities at Calcutta, Bombay and Madras in 1857. But the growth and development of education was very slow during pre-independence period. University libraries too were not founded along with the establishment of universities, because most of the universities which were started earlier, served as mere examining bodies. The teaching work was done by colleges. Universities restricted their activity merely to holding examinations and awarding degrees. As such, the need for maintaining libraries was not made possible and there was hardly any provision in the university budget to acquire books and storage furniture. For instance, the Calcutta University library which is considered as the oldest and the best was not founded along with the university on 24th January, 1857, but was started sometime in 1870 only.

In some cases, donations from individuals contributed much in the construction of good library buildings. For instance, the Bombay University Library was the result of a philanthropist, Premchand Roychand, the Merchant Prince of Bombay, who donated a sum of Rs. 2,00,000 in 1864 for the erection of a library building and it was opened in 1879. Similarly, the Maharaja of Darbhanga made a generous grant of Rs. 2,50,000 for the construction of Calcutta University Library building in 1912. The Andhra University Library was started in 1926, with a nucleus of 5,400 volumes donated by Rao Bahadur Dr. Lakshminarayana, an Andhra industrial magnate and philanthropist of Nagpur.

The University Act of 1904 made a provision to start study and research in universities. The Calcutta University Commission, 1917, and the Montford Act of 1920 created provision to start research in the departments of universities. As a result, the university libraries began to develop their collection to support academic programmes.

The university libraries in pre-independence period were considered as store-houses of books and the librarian was considered as store-keeper of the library without any

service aspect. However, the universities which started later served as both teaching and examining bodies and maintained libraries from the beginning. The libraries of all Presidency Universities, i.e., Calcutta, Bombay, Madras, University of Delhi and Lahore developed their libraries on proper lines and are considered as the best available in the country.

Therefore, the growth and development of University libraries during the pre-independence period was very slow and the collection meagre. Such a growth has been very fast and spectacular in the post-independence period.

After independence, the Government of India, has appointed several Committees and Commissions to find out means and measures to develop higher education in the country. Dr. S. Radhakrishnan, in his report on higher education, in 1949, emphasised the importance and need for the development of university libraries on sound footing. He stated "Teaching is a cooperative enterprise. Teacher must have the necessary tools for teaching purposes in the shape of libraries and laboratories as also the right type of students. The library is the heart of all the university's work; directly so, as regards its research work, and indirectly as regards its educational work, which derives its life from research work. Scientific research needs a library as well as a laboratory, while for humanistic research, the library is both a library and a laboratory in one."¹⁵ As a result, libraries obtained considerable financial and organisational support in universities. Along with the universities, the libraries have grown in size as regards book collection, furniture, staff and service aspects.

The growth of universities and university libraries is very pronounced after the inception of the University Grants Commission in 1956. Dr. C.D. Deshmukh, a scholar and lover of books, the first Chairman of the U.G.C. has boldly implemented the recommendations of the University Education Commission and gave a proper direction and encouragement for the development of the university libraries. The U.G.C. has appointed a Committee in 1957,

headed by Dr. S.R. Ranganathan, to suggest measures for proper functioning and management of the university libraries. The Committee in its report made many recommendations regarding library building, equipment, formula for providing library staff, revision of pay scales, release of U.G.C. grants and acquisition of reading material, etc.

The U.G.C. also convened a National Seminar on "From Publisher to Reader: Workflow in University and College libraries." This seminar covered many aspects of the university library in a comprehensive way. The U.G.C. by appointing the Library Committee and convened workflow seminar, gave library professionals an opportunity to discuss about their problems and finding out solutions for the improvement of library conditions in universities.

In 1959-60, the U.G.C. adopted the recommendations of the Library Committee, taking into consideration of the proceedings of the work-flow seminar. Accordingly the U.G.C. has rightly recognised the role of a library in the university and its importance to teaching and research programmes. It raised the status of the library staff to that of teaching staff in the Third Plan Period as recommended by Dr. Ranganathan.

Since then, the U.G.C. has been providing sumptuous grants to the university libraries for purchase of books, journals, equipment and furniture as well as for staff salaries. It has been providing liberally, for the construction of library buildings.

The University Grants Commission from the First Plan period to 1972-73 had provided a sum of Rs. 10,09,40,308.00 to the university libraries for purchase of books and periodicals in all the disciplines.⁴⁶ From 1973-74 to 1982-83, an amount of Rs. 2,681.75 lakhs was granted for the same purpose by the U.G.C.⁴⁷ During the Third Plan Period, the U.G.C. paid an amount of Rs. 4,11,583/- towards the setting up of textbook sections in University libraries and also granted an amount of Rs. 83.82 lakhs to 218 colleges for the same purpose.

During the first, second and third plan periods and upto 1972-73 U.G.C. has sanctioned a sum of Rs. 3,83,75,289.00 for the construction or extension of library buildings.⁴⁸

Under Wheat Loan Exchange Programme P.L. 480, U.S. Government has granted an amount of Rs. 25,000,000/- for purchase of books, scientific equipment and for exchange of academic persons between India and U.S.A. Out of the total, an amount of Rs. 7,00,000/- was spent for purchase of books and journals. Under the same scheme 30 libraries have received grants as shown here-under :

- 8 University Libraries — Rs. 2,00,000 and over.
- 5 University Libraries — Rs. 1,50,000 - 1,99,000.
- 11 University Libraries — Rs. 1,00,000 - 1,49,000.
- 6 University Libraries — Rs. under Rs. 1,00,000.⁴⁹

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Chapter II

NEED FOR THE PRESENT STUDY

Since Independence, universities in India have been growing in size and number. More than 80% of the total number of Universities have been started only after Independence (Appendix 1).

In the universities, there has been a corresponding growth in the number of departments as well as students, research scholars and teaching staff. Towards hastening development of higher education and research in the Universities, the Government of India established the University Grants Commission (U.G.C.) through which it provided considerable financial support. Considering the importance of libraries in the promotion of higher education, liberal grants have been given by the U.G.C. in each plan period to universities as well as individual libraries to improve their collection, equipment, staff and services. Besides, some university libraries obtained financial assistance through the international bodies like the UNESCO and USAID. As a result the university libraries improved considerably in collection, staff, etc.

Nonetheless, the university libraries in India are not in a position to provide required information support to the research clientele. There arose a wide gap between the information support needed for research programmes and what is available at present. It is well known that University libraries are not able to provide personal-oriented or project-oriented information service to research scholars. It may be for the following reasons :

1. Increase in the number of scholars in Universities ;

2. Increase of specialisations in each and every discipline ;
3. Increase in the growth of knowledge and production of literature ;
4. Inter-disciplinary orientation in research studies ;
5. Lack of proper appreciation of the value of library service by the state and university management ; and
6. Inadequate financial support from funding agencies.

In order to avoid scholars spending much of their valuable time in scanning through vast literature to find out required information (by wasting their potential research time), a library and information centre has to provide required information to the clientele as expeditiously as possible. The information needs of its patterns can be assessed through user studies.

User Studies

The basic assumption behind user studies is that the library and information system and its services need improvement from time to time as per the changing information needs of its user community. The user studies help us in filling up the gap between the kind of information services available in the library and those required for reading community. As such, findings of user surveys provide the basis for formulating a design and plan for a well organised modern library and information system.

User studies collect basic data about the existing library facilities through questionnaires and interviews from the user community. Based on these it will be possible to suggest appropriate measures for improvement.

Several user studies were conducted in different countries about different types of users in the field of library science. The pilot survey conducted by Prof. J.D. Bernal for the Royal Society's Scientific Information Conference in 1948 is considered as the earliest of its kind

in the field.¹ Later, several studies were conducted both in sciences and social sciences. It is estimated that the number of such user studies would be as many as 2,000.²

The Government Social Survey for DSIR, U.K., carried out an investigation among the technologists in British Electrical and Electronics Industry to know their information needs and information seeking methods. Mr. Scott was responsible for analysis of the data and preparation of the final report of that survey.³ In this survey, the interview method was adopted, and the survey covered nearly 1,082 persons working in 127 organisations. The users were with a minimum of 10 years experience in that category of employment. The major findings of the study are :

1. About 80% of the total persons surveyed were reading journals ;
2. The average number of journals claimed as seen regularly was 4 per person ;
3. Most of the articles read were those recommended by professional colleagues. But only 20% of them were able to give at least one identifiable title of abstracting periodicals in their own fields ;
4. Conferences were mostly attended to establish personal contacts and with a sense of duty ; and
5. The main function of technical literature as conceived by the majority of the users was either a reference source or a primary source which enables one to know the prevailing conditions and trends.

Similarly, Mr. R.M. Fishenden made a survey at the Atomic Energy Research Establishment, Harwell, to discover the information seeking behaviour of workers.⁴ In this survey, diary cards and personal interview methods were supplied to obtain information. The major findings are :

1. Most of the workers were reading current journals to obtain information ;
2. References given at the end of the scientific paper formed an important source of information ;

3. Comparatively less use was made of abstracting journals ;
4. Information bulletins and report lists were widely used to communicate information. On the whole, use of library services was less.

On behalf of the Advisory Council for Scientific Policy in U.K., Prof. B.H. Flowers carried out a survey to obtain opinions of scientists on total information system and to formulate graduation centres at the national level.⁵ Information was obtained from over 3,000 scientists in the field of chemistry and physics with the help of posted questionnaire. The major findings are :

1. The information seeking methods of chemists and physicists were not alike ;
2. Abstracts are widely used by both groups of persons ;
3. Patents are not much used as source of information ;
4. Libraries in general played a passive role in the process of research activity.

This report also contains some suggestions for the future investigations.

Several studies were conducted in the U.S.A. to find out the patterns of information seeking behaviour and use of information by scientists, engineers and other professionals.

Dr. R.R. Shaw conducted an investigation to find out the reading habits of research staff in the Forest Products Research Laboratory.

Among the researchers in New York, Philadelphia, Baltimore, Washington, Chicago and Cleveland, a tridimensional study of the habits and patterns of American Medical Scientists in the use of information, foreign language information in general and Soviet information in particular was conducted by Saul Herner.⁶

Another study was conducted among the scientists and engineers engaged in R & D Department of Defence to test and evaluate the use of scientific and technical information.

It is also pertinent to mention here that European Productivity Agency (EPA) conducted a study at the international level to identify the methods used by industries to obtain technical information and to assist the planning of European Information Services. Austria, Belgium, Germany, Italy, Norway were included in the purview of this study. It is found that scientific and technical information was seldom needed and used. But four industries had a planned system for obtaining technical information.

In India, attempts were made to conduct user studies in the recent past. The number of studies and the area of coverage were very limited. In 1965, IASLIC conducted the first seminar on 'Users and Library Information Services.' This seminar drew pointed attention to the importance of user studies for libraries.'

The INSDOC conducted a user study on 'Electronic Information Potentials in India' to assess the information seeking behaviour of individuals in the field of electronics⁸

Krishna Kumar conducted a survey in 1968 in the Chemistry Department of the Delhi University to assess the information seeking efforts and methods of teachers and scholars. He found that the results are comparable with the findings of similar surveys conducted in other countries.⁹

Problem

It can be readily seen that there is an imperative need to reorganise the university library systems in India in order to suit to the changing information needs of the research community. Modernisation of university libraries is urgently needed for proper utilisation of research resources for the development of scientific and technical knowledge.

Objectives of the present study

The present study aims at analysing and identifying the present situation in the Andhra University Library and to suggest ways and means of improving the library system and the appropriate information services.

Keeping the research scholars of the Andhra University in view as users, the focus given is on the following aspects :

1. Awareness, adequacy and the extent of the use of University Library sources, tools, facilities and services ; and
2. Identifying the information needs of scholars working in different disciplines.

Scholar's initiative and interest in research work and his views on finance, guidance and academic atmosphere which will have a considerable impact on his work and progress are taken into consideration. It includes an assessment of the existing library services. The design of the study covers :

1. Identifying strengths and weaknesses of library collection in different subject fields ;
2. Evaluating the effectiveness of existing facilities and services ;
3. Recommending appropriate measures to improve the collection of documents and services along with the introduction of new facilities for the improvement of library functions.

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Chapter III

ANDHRA UNIVERSITY LIBRARY : GROWTH AND DEVELOPMENT

Visakhapatnam is situated at 17° 43' North and 83° 20' East and is at a distance of 484 miles from Madras and 547 miles from Calcutta by rail. There is a flourishing sea-port lying in the angle of the bay, formed by the projection seawards of the prominent headland known as the Dolphin's Nose.¹ To the west of the town lies a large backwater area through which a small stream meanders to the sea. On the north and south it is bounded by two parallel ridges of low hills about 1,800 feet in height and 4 miles apart. The angle between the coast and the Dolphin's Nose forms the topography of the present city.

In Visakhapatnam, one University (Andhra University), 6 Degree Colleges, 7 Professional Colleges and 7 Junior Colleges are located. Andhra University is situated on a ridge of a low hill in the suburb of Waltair with a backdrop of green hills of Simhachalam looking eastwards over the surging blue waters of the Bay of Bengal. Many a visitor to the University has been struck by its serenity and charm ; and it has a salubrious climate.²

During the last thirty years, the town has grown on all sides with several major industrial and business undertakings around the port which is considered to be the best developed on the East Coast of India. These circumstances influence the life of the University. Its founders, fifty years back, designated Visakhapatnam as the City of Destiny.

The Andhra University was constituted by an Act of Madras Legislature (The Madras Act No. II of 1926) as

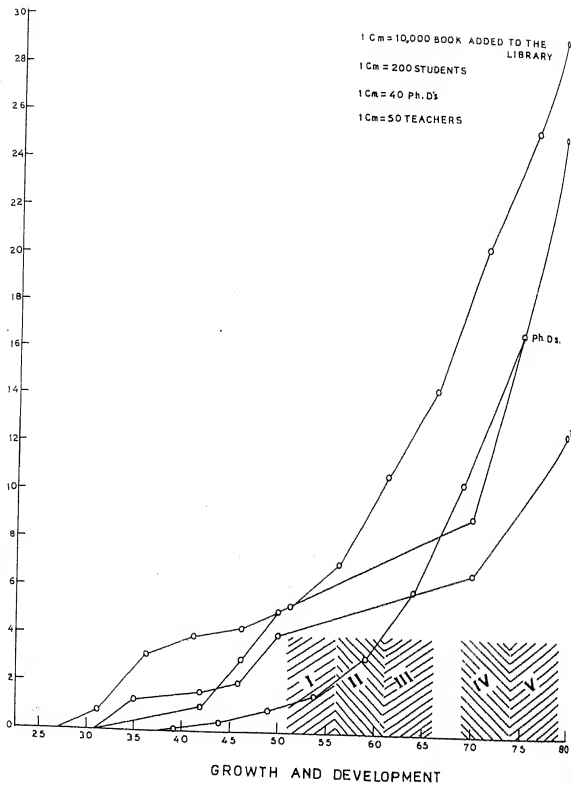
recognition of the long-felt need and aspirations of Telugu people in the erstwhile Madras Province. It was formally inaugurated at Vijayawada, on the 26th of April, 1926 with the Governor of Madras, Lord Goschen, as Chancellor and the Maharaj Saheb of Bobbili as Pro-Chancellor. Dr. C.R. Reddy, who was the moving spirit behind this project and who had done everything for its planning, was chosen as Founder Vice-Chancellor and Mr. C.D.S. Chetti of the Madras Education Department as the First Registrar.

The University Library also began its existence in 1926 along with the birth of the University at Vijayawada. The Library was started with a nucleus of 5,400 volumes donated by Rao Bahadur D. Lakshminarayana, an Andhra industrialist and philanthropist of Nagpur. In the initial years, the University was entrusted with the job of setting up of administrative organisation and granting affiliations. Later, the university was shifted from Vijayawada to Waltair in September, 1930 and began functioning in a building called the 'Hotel Cecil' with a ground of 53 acres around it.

The University began functioning with a handful of teachers and a small number of students from 1931-32. Soon, the departments grew, students increased and the staff increased upto 60. The library collection went upto 9,000 in 1932.

Dr. C.R. Reddy resigned his Vice-Chancellorship in 1931 and Dr. S. Radhakrishnan, the then Professor of Philosophy in Calcutta University, was chosen as his successor. During the period from May, 1931 to May, 1936, the University has grown in size. A number of teaching faculties like Telugu, Philosophy, Mathematics, History, Physics and Chemistry were introduced. The Arts College, College of Science and Technology and three hostel blocks were set up in the Campus. In 1933, there came a remarkable benefaction for the university from the Rajah Saheb of Jeypore, Sir Vikram Deo Varma, who promised a donation of one lakh of rupees each year for the development

ANDHRA UNIVERSITY



of Science and Technology. In recognition of his princely generosity, the Science College was renamed as the 'Jeypore Vikram Deo Varma College of Science and Technology.'

Similarly, the library came to be housed in its own building constructed at a cost of one lakh rupees in the university's permanent headquarters at Waltair, a suburb of Visakhapatnam. Along with the University, the library grew in size and the collection went up to nearly 25,000.

Later in 1942 it was temporarily shifted to Guntur during the Second World War and returned to Waltair in 1946 and Dr. C.R. Reddy came back to the University again as Vice-Chancellor in 1936 and continued up to 1949. Major developments of the university were organised during this period of 13 years. (Graph 1) Many new faculties like English, Economics, Chemical Engineering, Pharmaceuticals, Botany, Zoology and Geological sciences were established. A number of new Chairs were also instituted in different faculties in the university. New hostels, laboratories, buildings for colleges have risen up during this period.

When the University went to Guntur, it had about 200 students, 80 staff on rolls. The number went up to 600 students and 100 teachers in 1946 and 1,000 students and more than 200 teachers by 1949. A progress has been marked in the library collection during the period 1937-42. In 1946, when it came back to Waltair the total collection of books was about 40,000 and by 1949 it reached 50,000.

After Dr. C.R. Reddy left for Mysore as a Pro-Chancellor of that University in 1949, Dr. V.S. Krishna took over as Vice-Chancellor and held the office for 11 years. During his period, there had been a dynamic expansion in the departments and several buildings were erected to meet the expansion programmes of the University with the financial assistance from the University Grants Commission. Laboratories in Pharmacy, Meteorology, Agricul-

ture, Geophysics, Applied Physics and Engineering were provided and buildings for the new Arts College and New library also were commissioned during this period.

As collections in the University Library grew year after year passing the 68,000 mark in 1956, it gave rise to a special problem that of either to expand the building or to construct a new building to accommodate the then existing collection and future acquisitions. The University Grants Commission granted an amount of 6.5 lakhs of rupees out of the total estimated expenditure of the present building. The new five storeyed library building was opened by Dr. K.L. Shrimali, the then Union Minister for Education on 4th December, 1960. Soon, the shifting of the library to the present building, was completed during 1962. Ever since its shift to the present building, the library witnessed a commendable growth not only in its comprehensive collection of documents covering all branches of knowledge, but also in adapting itself to the changing needs and conditions by extending its scope and nature of services on the lines of a modern university library. In 1961, it passed the one lakh mark in its collection. It took nearly 34 years to reach the one lakh mark. But it took less than 11 years to reach the 2nd lakh mark and 9 years only to reach the 3rd lakh mark of its collection (Tables 1-4).

One important event in the history of the University in 1968 was the renaming of the library as "Dr. V.S. Krishna Memorial Library." It was because of late Dr. Krishna's long, intimate and purposeful association with the university library, the then Syndicate of the Andhra University rightly decided to rename the library after him and to install his bronze bust in front of the present library building.

The library is one among other premier academic libraries in India and today it happens to be one of the best libraries of its kind. The total accession has already reached more than 3,50,000 books and bound volumes of periodicals. Every year, about 1,500 learned periodicals

are being subscribed and most of them are of foreign origin. Also, about 200 different periodicals are received gratis.

Very useful gifts of books have been received from the USIS and Asia Foundation. The special collections of P. Lakshminarayana, Dr. V. S. Krishna, Sri A. V. Bhanaji Rao and Sri Gidugu Rama Murthy Pantulu comprise many valuable and unique books of interest to research scholars. Similarly, Sir K. V. Reddi Naidu collection donated by his son, the former Registrar of the University, Sri K.V. Gopalaswamy contains among many other rare books, books dealing with the problems of Indians in South Africa. Sri K.V. Gopalaswamy's own collection consists of an almost complete set of modern Telugu plays as also an interesting selection of European drama.

There is, besides, the Paravastu collection of more than a thousand valuable manuscripts in addition to the already existing 1,500 palm leaf manuscripts, of which two-thirds are in Sanskrit. Also, there are nearly one thousand impressions of rock-cut inscriptions taken from the temple pillars from Andhra area.

The Administrative structure of the Andhra University Library is diagrammatically shown in Charts 1 and 2.

Staff Pattern (Sectionwise Breakup)

1. Librarian
2. Deputy Librarian

1. Circulation Section

Assistant Librarian	1
Library Assistants	5
Technical Assistants	4
Attenders	12

2. Acquisition Section

Assistant Librarian	1
Library Assistants	4

Technical Assistants	2
Typist	1
3. Technical Section	
Assistant Librarian	1
Library Assistants	6
Technical Assistants	2
Typists	2
Attender	1
4. Textbook Section	
Technical Assistant	1
Attenders	2
5. Telugu Section	
Curator of Manuscripts & Oriental Languages	1
Library Assistant	1
Attender	1
6. Periodical Section	
Assistant Librarian	1
Library Assistants	3
Technical Assistant	1
Attenders	2
7. Reference Section	
Bibliographer-cum-Documentalist	1
Library Assistants	4
Technical Assistant	1
Attenders	7
8. Administrative Section	
Superintendent	1
U.D. Clerk	1
Typist Clerk	1
9. Despatch Section	
L.D. Clerk	1
10. Bindery Section	
Head Binder	1
Senior Binders	3
Binders	2
Binder Boys	5

CHART - 1

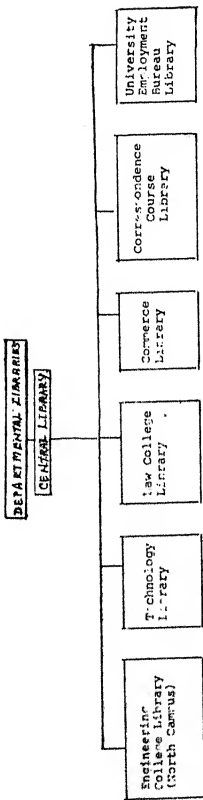
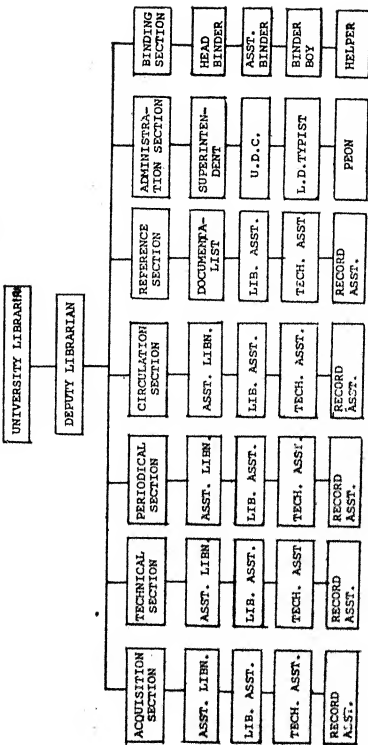


CHART - 2
ORGANISATIONAL CHART OF CENTRAL LIBRARY



11. Photocopying Operators	
Operator	1
Office Boys	3
12. Engineering College Library	
Assistant Librarian	1
Library Assistants	3
Technical Assistant	1
Attenders	3
Office Boys	2
Peons	2
13. Law College Library	
Library Assistant	1
Attender	1
Office Boy	1

Special Features

1. There is a special collection of books donated by eminent educationalists, Philosophers, Industrialists.
2. Collection of Manuscripts and Inscriptions, which are very valuable to indologists.
3. Special Reference collection which are of great Artistic value and as well as of their rarity.
4. Collection of books which are important for cultivating the general reading habit, mainly of general interest.
5. Readers service unit which gives personal attention to the readers in their information search and retrieval.
6. Documentation and Bibliography service - in anticipation or on demand.
7. Reprographic unit to provide facilities to the users.
8. Library works from 9 a.m. to 10 p.m. on all days in a week except Sunday and Holidays. On Sunday it works from 10 a.m. to 5 p.m.

9. Microfilm unit 2 which maintains microfilms, microfiche and microfilm reading equipment.
10. The borrowing facilities (Tickets) are as follows :

Clientele	Term Tickets	Fortnight Tickets	Week Tickets
Teachers	10	10	6
Scholars		10	3
Students		4	1
Non-teaching staff		3	--
Deposit Borrowers		3	--

11. The library is having the following equipment
 (a) Microfilm Reader ; (b) 16 mm. Film Project ;
 (c) Microfine Reader ; (d) Cassette Tape Deck.

TABLE 1

Andhra University Library
 Growth of Book collection in the University Library

Year March ending	Total Book Collection	Percentage increase over a period of 5 years
1931	8,716	2.5
1936	30,796	6.6
1941	38,042	2.2
1946	42,846	1.4
1951	52,325	2.8
1956	68,032	4.7
1961	1,02,214	10.2
1966	1,38,914	10.9
1971	1,93,677	16.3
1976	2,37,808	13.2
1981	3,01,044	18.8
1986	3,36,080	10.4
		100.0

Note : Before 1960 the growth book collection is 22.4%.
 After 1960 the growth book collection is 77.6%.

TABLE 2

Andhra University Library
Total Expenditure Incurred on Different Heads

Year	Books	Periodicals	Staff	Others	Rs. in Thousands	
					Total Library Expd.	Total University Expenditure
1960-61	79.4	41.7	38.3	—	158.4	13,825.8
1961-62	31.7	26.9	47.1	16.6	122.3	12,651.0
1962-63	35.9	30.5	60.2	13.4	140.0	14,201.4
1963-64	43.0	54.5	79.6	11.3	188.4	15,265.7
1964-65	67.7	24.2	88.2	16.0	196.1	16,808.2
1965-66	61.5	109.1	122.4	5.4	288.4	12,954.2
1966-67	136.4	185.7	169.4	29.7	521.2	13,772.8
1967-68	48.7	165.4	146.7	22.3	383.1	16,278.4
1968-69	72.8	144.3	140.4	48.7	405.9	18,157.1
1969-70	93.9	244.4	144.7	37.0	570.0	17,991.7
1970-71	115.6	200.0	174.4	40.0	530.0	22,546.2
1971-72	117.3	225.2	339.2	28.4	710.1	17,472.1
1972-73	101.5	338.4	339.6	27.0	782.2	16,858.9
1973-74	62.3	403.3	397.7	41.0	667.4	18,677.8
1974-75	128.7	457.8	429.8	10.6	1,026.9	21,578.1
1975-76	204.0	520.8	520.5	27.0	1,248.0	27,682.3
1976-77	160.1	584.1	662.8	12.1	1,419.1	33,607.7
1977-78	137.3	783.3	735.9	19.7	1,676.2	35,085.6

1978-79	137.9	758.0	793.3	33.4	1,722.8	40,487.6
1979-80	127.8	806.8	895.8	37.6	1,845.4	42,754.0
1980-81	121.8	907.3	1,172.4	26.6	2,228.3	51,405.0
1981-82	160.4	1,086.8	1,153.3	36.6	2,437.1	60,776.0
1982-83	71.7	1,536.6	1,578.3	46.8	3,247.6	70,577.0
1983-84	97.0	1,676.7	1,470.0	38.0	3,281.7	86,929.0
1984-85	92.5	2,161.5	1,652.6	40.7	3,947.3	93,198.0

Source : Andhra University Budget Copies.

TABLE 3

Andhra University Library
Expenditure on Books and Library Staff

Particulars	1960-61	1965-66	1970-71	1975-76	1980-81	1984-85
% of books exp. to total Lib. Expenditure	50.2	21.3	21.8	16.3	10.2	2.34
% of periodicals exp. to total Lib. Expenditure	26.3	37.8	37.7	41.7	40.0	54.75
% of Staff exp. to total Lib. Expenditure	24.2	39.0	32.9	41.7	45.3	41.86
% of Library exp. to total University Expenditure	1.1	2.2	2.3	4.5	4.3	4.23

TABLE 4

Andhra University Library
Land-marks in the growth of book collection

- | | |
|--|-----------|
| 1. The first book accessioned in the Andhra University Library | 6-10-1927 |
| 2. The First Lakh of books completed | 27-9-1961 |
| 3. The Second Lakh of books completed | 28-1-1972 |
| 4. The Third Lakh of books completed | 20-3-1981 |

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1. Andhra University, 'Silver Jubilee Souvenir, 1926-1951,' (Waltair : Andhra University Press, 1951), p. 7.
2. *ibid.*, p. 5.

Chapter IV

METHODOLOGY

Scope of the study

At present, there are about 120 universities in India, where the academic atmosphere and use of libraries are unlikely to be similar in all respects. Because of many variations in environment, and the obvious limitations of research facilities for investigation, it is not possible to take up all the libraries into consideration for an indepth study. User studies have to be indepth in nature, in order to obtain comprehensive and multidimensional pattern and quality of information. As such, only Andhra University is chosen for study for the following reasons :

1. It is one of the oldest universities in the country as it was started in 1926 ;
2. It has grown at a fast rate in enrolment of students and research scholars, number of teaching staff, number of departments, etc. At present, it has 47 departments with 600 teachers, 700 research scholars and 5,000 students having been endowed with fulfilled buildings and laboratories ;
3. An amount of about Rs. 10,00,000 is being spent annually on scholarships and for acquiring equipment necessary for research in different departments with support from the state government as well as U.G.C., C.S.I.R., I.C.S.S.R. ; and
4. The University Library has a total collection of more than 3,00,000 books and backsets of periodicals, 1,500 journals on current subscription list. Having special facilities, it is manned by 120 staff

members. Forty of them are technically qualified people.

Sample Selection

In this study, both full-time and part-time (teachers) scholars working in various departments of sciences, social sciences and humanities were included. Engineering faculty was purposefully excluded on the grounds that there are very few research scholars who got themselves registered for Ph.D. and among which there were none who responded to the questionnaires served to them even though the researcher took pains to contact them personally. All of them for their own reasons did not respond. As such, data regarding Engineering could not be presented.

Research Scholars who got themselves registered up to the end of December, 1978 are considered in this study. Those who had at least one year of experience in research work by December, 1979 are also reckoned.

The number of scholars registered for the Ph.D. in sciences, social sciences and humanities as on December, 1978 was 672. This number was considered as total population for the study. The number of full-time scholars was 504 and the number of part-time scholars was 168 in the total population. In the science departments the total research population was 411, out of which 74 were part-time scholars. In social sciences, there were 91 full-time and 74 part-time scholars. Out of the total population of 96 in humanities, 20 were part-time scholars. The faculty-wise distribution of the population is given in Table 5. The same data distributed department-wise among the faculties of Sciences, Social Sciences and Humanities may be found in Tables 6, 7 and 8 respectively.

The questionnaire devised for this study was given to all the research scholars with the intention of complete enumeration of the population. However, responses were

obtained only from 336 research scholars which forms 50% of the total population.

Questionnaire Development

In order to facilitate understanding of the problem, questionnaire has been prepared to obtain data from a moderately larger number (672) of users.

The questionnaire has been pretested. For this purpose, 30 scholars were selected from different faculties. On the basis of the information elicited, the questionnaire was further refined.

Final Questionnaire

The final questionnaire mainly concern with the aspects as noted below :

1. Research Scholars' initiative and interests ;
2. Research support facilities ;
3. Library facilities ;
4. Library tools and techniques ;
5. Library services ; and
6. General aspects relating to library.

Each of these areas was covered by several questions to elicit information. While some of these questions were structured, some were open-ended where the respondents were given a choice to give their views. The structured questions contain different response techniques. Three point responses—'Yes/Not much/No' or 'Adequate/Meagre/Inadequate'—and the like ; and the ranking of the integrity is provided. The questionnaire is given in Appendix.

Source of Data

Information about the research scholars (672) with regard to their names and place of working (with their respective departments) was obtained from the administrative sections of the departments. Some scholars were first con-

tacted through phone or in person for preliminary discussion. After the consent of the research scholars was obtained, the questionnaire booklet was given to each of them. They were assured that their identity would be kept confidential and they were advised not to write their names anywhere on the questionnaire. The scholars were given enough time to complete the questionnaire. The completed questionnaires were later collected by the investigator.

Techniques used in the Data Analysis

The information thus obtained from 336 respondents was tabulated and analysed using the following statistical techniques :

1. Percentage analysis ;
2. Mean Averages ; and
3. Graphic presentation of data.

TABLE 6
Sciences — Total number of Scholars and Responses received in various Disciplines

Department	Full-time		Part-time		Total		Remarks
	No. of Scholars	No. of responses	No. of Scholars	No. of responses	No. of Scholars	No. of responses	
Physics	29	16	5	2	34	18	52.9
Nuclear Physics	34	17	1	—	35	17	48.6
Applied Physics	3	2	8	1	11	3	27.2
Chemistry	41	21	6	1	47	22	46.8
Botany	41	27	5	6	46	33	71.7
Geology	38	5	2	1	40	6	15.0
Zoology	57	25	4	3	61	28	45.9
Geophysics	16	7	4	3	20	10	50.0
Meteorology & Oceanography	28	19	3	1	31	20	64.5
Geography	8	6	3	3	11	9	81.8
Marine Sciences	8	8	2	1	10	9	90.0
Environmental Sciences	7	6	—	—	7	6	85.0
Pharmacy	8	6	12	2	20	8	40.0
Bio-Chemistry	5	2	4	4	9	6	67.0
Human Genetics	8	5	2	2	10	7	70.0
Applied Maths.	3	—	5	2	8	2	25.0
Statistics	3	2	8	—	11	2	18.0
Total	337	174	74	32	411	206	50.1

TABLE 7

Social Sciences

Total number of Scholars and Responses received in various disciplines

Department	Full-time			Part-time			Total	
	No. of Scholars	No. of responses	No. of Scholars	No. of responses	No. of Scholars	No. of responses	No. of Scholars	No. of responses
History & Archaeology	11	8	2	2	13	2	10	76.9
Anthropology	-11	6	2	2	13	2	8	61.5
Sociology	8	3	8	2	16	2	5	31.2
Social Work	1	1	4	2	5	2	3	60.0
IRPM	3	2	2	1	5	1	3	60.0
Law	5	4	14	2	19	2	6	31.5
Politics & Public Admn.	20	6	10	-	30	-	6	20.0
Economics	4	4	4	6	10	6	10	100.0
Applied Economics	4	4	8	3	12	3	7	58.3
Commerce	1	1	4	-	5	-	1	20.0
Education	5	4	4	1	9	1	5	55.5
Adult Education	7	6	-	-	7	-	6	85.7
Library Science	-	-	4	2	4	2	2	50.0
Mathematics	11	9	6	1	17	1	10	58.8
Total	91	58	74	24	165	24	82	49.6

TABLE 8
Humanities
Total number of Scholars and Responses received in various Disciplines

Department	Full-time		Part-time		Total	
	No. of Scholars	No. of responses	No. of Scholars	No. of responses	No. of responses	Remarks
Philosophy	7	4	5	2	12	6 50.0
Psychology	4	4	7	5	11	9 81.8
English	6	4	5	1	11	5 45.4
Hindi	28	12	-	-	28	12 42.8
Telugu	25	9	1	1	26	10 38.4
Sanskrit	6	4	2	2	8	6 75.0
Total	76	37	20	11	96	48 50.0

PROFILES OF RESPONDENTS

Research Motivation (Table 9):

1. Humanities scholars seem to be having motivating factors like getting higher qualification (Ph.D.), subject interest academic interest, etc.
2. They also have the highest percentage regarding higher qualification and subject interest as motivating factors.
3. All the factors seem to motivate science scholars. Taking up research to avoid unemployment seems to be an interesting factor, since the percentage is higher than research interest. Same is the case with social science scholars.

Job Trials (Table 10):

1. The Humanities scholars are in majority of those trying for jobs.
2. The percentage of science scholars who tried and did not try for jobs seems to be the same.
3. For social sciences, the percentage of scholars who tried for jobs is larger than those who did not try.

TABLE 9

Principle Research Motivation of Scholars
Percentage Distribution Faculty-Wise

Motivation	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	"	"	%	%
Academic Interest (Teaching)	11.8	12.6	10.5	8.7
To get higher Qualification (Ph.D.)	44.9	40.7	52.6	56.6
Subject Interest	19.8	19.2	19.3	26.1
Research Interest	5.7	5.9	5.3	4.3
To find new aspects	5.3	5.9	3.5	4.3
To go abroad	0.8	1.2		
Ego satisfaction	0.4	0.6		
To avoid unemployment	9.3	11.5	7.8	
To serve the nation	2.0	2.4	1.8	
Not responded	16.48	18.93	30.48	52.08

TABLE 10

Scholars Job Trials
Percentage Distribution Faculty-Wise

Opinion	Sample Size			
	Total	Science	Social Sciences	Humanities
	336	206	82	48
	"	"	%	%
Yes	38.4	36.9	39.0	43.7
Not decided	12.2	11.2	9.8	20.8
No	30.4	35.9	23.2	18.8
Not responded	19.0	16.0	28.0	16.7

Research Interest versus accepting Job (Table 11) :

1. The Humanities scholars would very much like to go for a job. They would like a job that would enable them to continue research.
2. The Same criteria is seen for social Sciences scholars
3. The Science scholars would not mind continuing in research without going for jobs.
4. On the whole, the research scholars seem to be motivated to do research, whether it involves continuing research or involving in a job that involves research.

Job Preference (Table 12) :

1. All the scholars prefer teaching jobs, because such jobs allow them time for conducting research.
2. The Science scholars prefer jobs that specially allow them to do research.
3. The social sciences and humanities scholars prefer administrative jobs after teaching.

Career Interest (Tables 13, 14 and 15) :

1. Science scholars prefer to do their research in laboratories, where as Social Sciences and Humanities scholars prefer to do field work. This reflects the trend of research facilities and methods.

TABLE 11
Research Interest vs Accepting Job
Percentage Distribution Faculty-wise

Decision	Sample Size			
	Total 336 0%	Sciences 206 0%	Social Sciences 82 0%	Humanities 48 0%
Go for job and discontinue Research	6.3	6.8	8.6	—
Go for job and Continue Research	38.4	33.0	39.0	60.4
Continue Research do not go for job	33.0	41.3	20.7	18.8
Not responded	22.3	18.9	31.7	20.8

TABLE 12
Job Preference
Percentage Distribution Faculty-wise

Profession	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Teaching	45.1	38.5	38.5	83.3
Research Oriented job	9.8	14.1	3.8	—
Scientific or Technical	7.4	11.5	—	—
Administration	15.6	8.9	38.5	11.1
Industrial	1.6	2.6	—	—
Scholars specialised field	9.8	15.4	—	—
Any job	10.7	9.0	19.2	55.6
Not responded	63.69	61.13	68.29	62.5

2. It is also seen that science and social science scholars seem to be little motivated to do research in industries. This would be either due to lack of cooperation between universities and industries; or lack of facilities for research in industries. With regard to social sciences, it could be because of lack of opportunities for social science scholars to work in industries. It is not that they are not capable of doing so, but that the industries do not recognise their importance, for example, a psychologist or sociologist.

Selection of Andhra University (Table 16) :

1. The science scholars opted the Andhra University basically, because it is the institution where they studied, where good research facilities are available and it is near to their native place and good guidance is available.

2. The same reasons were behind the social sciences scholars in selecting the Andhra University.

3. However, for humanities scholars, only two factors are predominant; (1) It is their alma mater and (2) it is near to their native place.

TABLE 13

Scholars Career Interest
Percentage Distribution Faculty-Wise

Profession	Small Size			
	Total	Science	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Research				
Laboratories	34.2	53.4	3.7	4.1
Field Work	18.5	12.1	31.7	22.9
Industry	8.0	8.3	8.5	6.3
Not responded	39.3	26.2	56.1	66.7

TABLE 14

Scholars Career Interest
Percentage Distribution Faculty-wise

Profession	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Professional				
Teaching	57.4	57.4	53.8	64.6
Consultation	6.8	8.7	2.4	6.3
Legal	0.6	—	2.4	—
Medical	1.5	1.5	2.4	—
Any Other	2.4	2.4	2.4	2.1
Not responded	31.3	30.0	36.6	27.0

TABLE 15

Scholars Career Interest
Percentage Distribution Faculty-wise

Profession	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Administration	17.3	12.1	26.8	22.9
Government	5.9	5.4	7.3	6.2
Industry	2.4	2.4	3.7	—
Business	28.3	44.2	3.7	2.1
Research Labs	46.1	35.9	58.5	68.8
Not responded				

TABLE 16

Reasons for Choosing Andhra University for Research Work
Percentage Distribution Faculty-wise

Reasons	Sample Size			
	Total	Science	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Studied here	49.8	48.9	41.3	67.9
Near to Native Place	13.9	12.0	15.2	21.4
Easy to get Scholarship	3.1	3.5	2.2	3.6
Availability of good research facilities	19.7	21.5	21.7	7.1
Availability of good guidance	9.9	10.1	15.2	—
No special reason	3.7	2.7	4.4	—
Suitable to my interest	0.9	1.3	—	—
Not responded	33.63	27.66	43.90	41.66

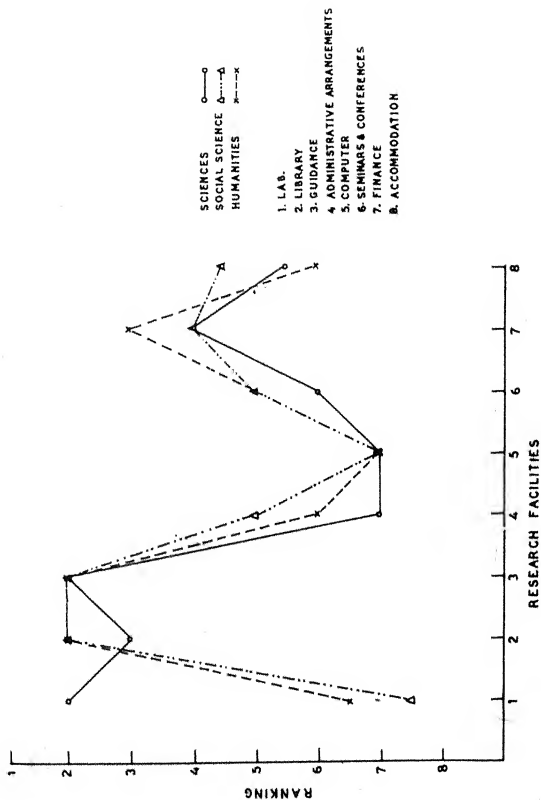
4. Interestingly, all the scholars find that it is not easy to get scholarships in Andhra University. Further, the scholars opinions about research facilities available in the University is shown in Tables 17, 18 and 19.

TABLE 17
Research Facilities
Percentage Distribution Faculty-wise

Satisfaction	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Yes	28.3	30.1	25.6	25.0
Partially	46.7	45.1	43.9	58.3
No	19.3	19.9	25.6	6.3
Not Responded	5.7	4.9	4.9	10.4

TABLE 18
Academic Environment
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Stimulating	36.3	37.4	39.0	27.0
Indifferent	36.0	41.7	25.6	29.2
Frustrating	17.6	15.1	25.6	14.6
Not responded	10.1	5.8	9.8	29.2



SCIENCES
SOCIAL SCIENCE
HUMANITIES

1. LAB.
2. LIBRARY
3. GUIDANCE
4. ADMINISTRATIVE ARRANGEMENTS
5. COMPUTER
6. SEMINARS & CONFERENCES
7. FINANCE
8. ACCOMMODATION

TABLE 19

Importance of Research Facilities
Percentage Distribution Faculty-wise

Facility	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Laboratory	14.3	20.0	4.0	5.4
Library	19.5	18.2	21.3	22.2
Guidance	19.8	19.0	21.4	21.0
Administrative Arrangements	7.4	6.5	9.9	7.5
Computer	6.3	7.1	5.9	3.2
Seminars & Conferences	8.9	7.6	10.5	5.0
Financial Assistance	14.4	13.1	16.8	16.5
Accommodation	9.4	8.5	10.2	12.2

Note: The weight given to each item is the same as what the respondent had given as his own order of importance. The weighted values in the schedules are added up and percentage distribution arrived at.

Background Generalised Profiles

Science Scholars :

A typical science scholar of the sample in this study joined research to earn a higher qualification, by virtue of his interest in the subject and teaching. He would even give up a job and continue research. However, if he would go for a job he prefers one that would enable him to continue research, such jobs being the teaching posts or work in the research laboratories. In spite of this, he would make some job trials.

He chose Andhra University as his institution for research, because it is his alma mater, where good research facilities are available near by his native-place and good guidance is also there. These factors motivate him to do research even if it is difficult for him to get a scholarship. Thus, in spite of financial difficulties, he prefers to continue research because of the good research facilities available. The scholars' rating of the four most important research facilities are (1) laboratories, (2) guidance, (3) library and (4) financial assistance. This positive evaluation of research facilities (which includes laboratory and guidance) have sustained his interest in spite of financial difficulties. His evaluation of library as the third most important factor is understandable by virtue of the fact that for a science scholar, work in the laboratory would be more important than the library.

Social Science Scholars :

The Social Sciences scholar took up research to earn a higher qualification, by virtue of his interest in the subject and to take up a teaching job. His interest in the subject has not stopped him from making job trials. He would first prefer a job that would enable him to continue research. His interest in research is not as strong as that of a science scholar because he would not prefer to continue in research by giving up a job.

He would prefer either a teaching or an administrative job. At the same time, he is willing to take up any job that comes his way. This reflects either the scholar's lack of motivation, or the lack of proper atmosphere to conduct research.

The social sciences scholar prefers to do research involving field work. This is understandable in view of the nature of social sciences subjects. He would like to do a teaching job. since it would be a natural continuation of the career after Ph.D.

The social sciences scholar opted for Andhra University because he had studied there, and good research facilities are available near to their native-places. On the whole, the social sciences scholar finds the research atmosphere in Andhra University conducive, but he is only partially satisfied with it.

The social sciences scholar's ranking of importance of research facilities are as follows :

- Guidance ;
- Library ;
- Financial Assistance and
- Conferences and Seminars.

Social Sciences research is largely dependent on the nature of guidance and library support. Hence the scholar has ranked them as the two most important conditions. Attending seminars and conferences is also important, since it exposes the scholar to the new directions in research and also the fact that research journals in social sciences are relatively less when compared with natural sciences. Financial assistance is also primary to a social science scholars since the nature of his work involves collecting information from the field, which involves a lot of expenditure. Lack of financial support would be the reason why social sciences scholar would make a lot of job trials and prefers any job that comes his way. On attaining economic independence, he can continue research, and such a facility is more viable for a social sciences scholar than a science scholar.

Humanities Scholar :

The Humanities scholar joined research only to get a Ph.D. and because of his interest in the subject. However, this scholar has made the maximum trials for a job and he would go for a job that would enable him to continue research. His job preference is largely teaching, which allows him to continue research even while working.

The Humanities scholar selected the Andhra University because he has studied here and it is near to his native-place. Research facilities and guidance do not seem to be factors that made him select the Andhra University for his research work, because such facilities in fact are poor as far as Humanities are concerned. This also accounts for the observation that Humanities scholar constitute the largest percentage of scholars making job trials.

The Humanities scholar ranks library, guidance and financial assistance as most important conditions to facilitate research work. This is understandable since the main source of data for a Humanities scholar is the library and the books. Research guidance comes next. Hence the library plays a very important role in the research career of a Humanities scholar. The importance of library is relatively less in Social Sciences and Science Scholars in that order.

Chapter VI

LIBRARY DOCUMENT RESOURCES

As is already discussed, the role of a library is vital for research work in the universities, and much importance is attached to library by the research community. It is true that scholars spend much time in the university library for gathering information relating to their research work.

Let us identify the role of the university library in support of research activity, assess and estimate the part played by the university library in this respect from the view point of research scholars. It is relevant to mention that the use of library depends on many factors such as the document collection, provisions made for the readers to have an easy access to the collection, reading facilities and the services offered. Provisions made for easy flow of communication from library to users, general atmosphere prevailing in the library, and the help and attitude of library staff, etc., are all factors which contribute to the total usefulness of the library and its collection.

Document Collection :

Library is a trinity of books, staff and readers. Documents (books, periodicals and other types of reading material) are therefore considered as chief components of the library. Usefulness of a library depends much on the wealth of its collection, which is much more so in the case of university libraries.

The need to acquire comprehensive document collection is more in university libraries, to support various academic programmes including research in the campus. Especially, for researchers who are engaged in the investigation of specific subject areas, the university library has to acquire a comprehensive and balanced collection of documents. In the absence of such collection, university libraries cannot provide required

information support to research community. The university libraries have such an onerous task of acquiring reading material on a wide range of subjects to support academic as well as research programmes carried out in the university. In order to know the adequacy of the existing document collection from the scholars' point of view and to identify the shortcomings, the reactions of respondents to a general question pertaining to their satisfaction regarding the available literature on their research topics is analysed.

Document Collection in General :

The opinions of the research scholars regarding document collection in general are given in Table 20.

It can be seen from the table that they evaluate the collection as average (47.9%) rather than satisfactory (28.3%) or unsatisfactory (21.4). This trend is also observed among scholars belonging to three disciplines, but with some differences. More than half of the Science scholars (54.9%) view the collection as average, while those finding it satisfactory or unsatisfactory are relatively less (28.6% and 15.5% respectively). While Social Sciences scholars seem to be more or less uniform in their evaluation of the collection as satisfactory (30.5%), average (31.7%) and unsatisfactory (31.7%), the Humanities scholars find the collection as average (45.8%) and are divided on their evaluation as satisfactory (22.9%) and unsatisfactory (29.2%).

This is evident from the mean averages obtained in this regard, which are as follows :

	Sciences	Social Sciences	Humanities
*Literature on research topic :	2.08	2.00	1.95

On the whole, it can be seen that the Science scholars are more satisfied with available collection than the scholars of other disciplines. The extent of dissatisfaction seems to be more among the Humanities scholars.

*A table of mean averages worked out is given in tables 55, 56, 57.

TABLE 20

Document Collection on Research Topics
Percentage Distribution Faculty-wise

Adequacy	Sample-Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	"	"	"	"
Satisfactory	28.3	28.6	30.5	22.9
Average	47.9	54.9	31.7	45.8
Not satisfactory	21.4	15.5	31.7	29.2
Not responded	2.4	1.0	6.1	2.1

Type of Documents:

Research scholars refer to all information published in different types of documents on the specific areas of their interest. Such information may be published in different forms and different places. The extent of use of such documents varies from discipline to discipline. Researchers in Sciences generally depend on the current information published in journals, whereas in social sciences, scholars depend for information on reports and books, etc. The diversity of use of documents in Social Sciences is more, when compared to Sciences.

To know the adequacy of different types of document collection in the library, the researchers' point of view is elicited.

Books :

The results regarding the collection of books (Table 21) indicate that the respondents find the book collection to be average (41.1%), adequate (25%) or inadequate (31.2%). A similar observation is made by Science scholars as average (46.1%), adequate (24.8%) and inadequate (27.2%), whereas the social sciences scholars are more or less uniform in their

TABLE 21
Documents
Percentage Distribution Faculty-wise

Adequacy	Sample-Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Books :				
Adequate	25.0	24.8	30.5	16.7
Average	41.1	46.1	30.5	37.5
Inadequate	31.2	27.2	35.4	41.7
Not responded	2.7	1.9	3.6	4.1

opinion average (30.5%), adequate (30.5%) and inadequate (35.4%). But the Humanities scholars are unhappy with the collection. Nearly, 80% of them find the collection as average and inadequate, which could be due to the reason that the Humanities departments (especially language departments) do not have adequate departmental libraries and that their scholars have to depend completely on the university main library. Those belonging to Science subjects are satisfied with the collection of books, while their counter parts in Humanities are most dissatisfied.

This is clear from the mean averages obtained in this respect, which are as follows :

	Sciences	Social Sciences	Humanities
Books	1.97	1.93	1.76

Reference books :

The scholars' opinions regarding reference books are significant by virtue of their value to research work, as scholars generally use such documents extensively in their works.

The findings (Table 22) indicate that scholars in general are more or less uniform in their evaluation of the collection

TABLE 22
Documents
Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	207 %	82 %	48 %
Reference Books				
Adequate	28.9	31.5	20.7	31.3
Average	33.0	37.4	29.3	20.8
Inadequate	29.8	24.8	40.2	33.3
Not responded	8.3	6.3	9.8	14.6

of reference books : average (28.9%), adequate (33%) and inadequate (29.8%). Coming to individual disciplines, Science scholars are more satisfied with the collection. Nearly, 70% of them say the collection is adequate and average. On the other hand, Social Science scholars are unhappy as about 70% of them find the collection average and inadequate. However, the Humanities scholars seem to be divided in their opinion. While 31.3% of them evaluate the collection as adequate 33.3% of them find it as inadequate. The mean average, obtained in this regard are as follows :

	Sciences	Social Sciences	Humanities
Reference books	2.00	1.77	1.85

Periodicals :

Periodicals are the main channels of current information very essential to research scholars. These are the main sources of communication through which scholars generally get in touch with the latest developments in the specific fields of their research. Abstract periodicals which contains list of articles published in various journals, serve as a key to the vast amount of current literature published in regular periodicals. Therefore, these periodicals are of immense use to scholars to identify any type of information and data published

relating to their research topics. To identify the strength and weakness of the collection of these types of documents in the library, the researchers' point of view is as follows :

From Table 23, it can be seen that the periodical collection in general is considered inadequate. Nearly 69% of the scholars evaluate the present collection of periodicals as average and inadequate. The extent of such a dissatisfaction is high in all discipline : Sciences 65.1%, Social Sciences 73.2% and Humanities 79.1%. This could be because the University Library has cut down its subscriptions because of financial stringency. However, it is pertinent to mention that scholars who are satisfied with the collection are : Sciences 31.5%, Social Sciences 20.7% and Humanities 16.7%.

TABLE 23

Documents
Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	208	82	48
	0%	0%	0%	0%
Periodicals :				
Adequate	26.8	31.5	20.7	16.7
Average	30.3	30.6	20.7	45.8
Inadequate	38.7	34.5	52.5	33.3
Not responded	4.2	3.4	6.1	4.2

This is also clear from the mean average obtained in this regard as shown below :

	Sciences	Social Sciences	Humanities
Periodicals	1.97	1.63	1.78

Abstracting Periodicals :

Abstracting periodicals are the key documents for researchers as they constitute the starting point of research for literature and also provide literature on a particular topic in abstract form. Regarding the collection of these documents the scholars in general find it as adequate and average (60% and among Science scholars (71.4%.) (Table 24).

However, in Social Sciences, about 65% of the scholars view the collection of abstract periodicals as average and inadequate. This could be because of the number of such publications in Social Sciences is relatively less when compared to Sciences in view of the subjects included in each discipline.

The Humanities scholars are also unhappy with Abstract-Periodicals. About 52.1% of them constitute the average and inadequate category, while 33.3% of the Humanities scholars did not respond to this question. This could be for that reason that such type of documents are very limited and it is not possible to prepare abstracts because of the nature of these subjects.

On the whole the results indicate that as in the case of periodicals, Science scholars are more satisfied with the collection.

TABLE 24
Documents
Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Abstract Periodicals :				
Adequate	36.0	48.1	18.3	14.6
Average	25.5	23.3	25.6	20.8
Inadequate	26.2	19.9	39.0	31.3
Not responded	14.3	8.7	17.1	33.3

This trend is reflected in the mean average obtained in this respect as shown below :

	Sciences	Social Sciences	Humanities
Abstracting periodicals :	2.17	1.78	1.58
Indexing Periodicals :			

The findings regarding Indexing Periodical collection are similar to those of abstract periodicals (Table 25). While scholars in general (58%) and Science Scholars (68%) are satisfied with the present available collection of Indexing Periodicals, Social Science scholars and Humanities scholars are dissatisfied (58% and 48% respectively) with the existing collection.

The percentage of Humanities scholars not responding to this question is 35.4%.

A Comparison across three disciplines shows that the scholars' opinion regarding the indexing periodicals collection is the same as that of their opinion regarding Periodicals and Abstracting Periodicals. Science scholars are more satisfied.

The mean averages obtained in this regard are as follows :

	Sciences	Social Sciences	Humanities
Indexing Periodicals :	2.07	1.75	1.55

TABLE 25
Documents
Percentage Distribution Faculty-wise

Sample Size				
Adequacy	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Indexing Periodicals :				
Adequate	33.0	40.8	23.2	16.7
Average	24.7	26.7	24.4	16.7
Inadequate	24.4	19.4	32.9	31.2
Not responded	17.9	13.1	19.5	35.4

Report Collection :

Report collection, i.e., reports of conferences, seminars and technical reports, contain a special variety of information, which is very valuable for researchers and which cannot be obtained from other sources. Such type of documents are of immense value to scholars. The opinions of respondents in this respect is given in Table 26.

The results show that the scholars are not content with the report collection in general. 76.2% are considering it as average and inadequate, which opinion is seen in the individual disciplines also : (Sciences 79.1%, Social Sciences 71.9% and Humanities 70.8%).

The extent of adequacy in the individual disciplines is very less which ranges from 2.1% to 20.8%. Social Sciences scholars constitute the highest percentage of respondents who are dissatisfied with the collection.

Conference Reports :

The trend of opinion of scholars about Conference Report collection is almost similar to the one that told about, reports in general. Scholars view it as inadequate. Such an inadequacy ranges from 70.9% to 84% in the individual disciplines, with Science scholars being most dissatisfied with the collection (Table 27).

TABLE 26
Documents
Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Reports-general :				
Adequate	12.2	11.2	20.8	2.1
Average	33.9	35.4	26.8	39.6
Inadequate	42.3	43.7	45.1	31.2
Not responded	11.6	9.7	7.3	27.1

TABLE 27
Documents
Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Conference reports :				
Adequate	9.5	6.8	15.8	10.4
Average	27.4	29.1	22.0	29.2
Inadequate	51.8	54.9	50.0	41.7
Not Responded	11.3	9.2	12.2	18.7

Technical Reports :

A similar trend of opinion is observed in the case of technical reports also (Table 28). The extent of inadequacy is in general more as well as in individual disciplines. Putting together the average and inadequacy categories, the extent of inadequacy ranges from 52.1% to 78.2% in the individual disciplines. The degree of adequacy is very low ranging from 6.2% to 7.3%.

The respondents who have not responded to this question are more in Humanities, understandably, they hardly use any of such documents in their work.

On the whole, it seems that the Report literature in general is inadequate. Such an inadequacy is more in the case of Conferences and Technical Reports.

Dissertation Abstracts :

Dissertation abstract contains information on specific topics, which are very useful to scholars. Dissertation abstracts are also very important documents for scholars. It can be seen from Table 29 that the scholars in general are unhappy with the collection of dissertation abstracts in the library. Nearly 65% of them evaluate the collection as average and inadequate. This view is uniform across the individual

TABLE 28
Documents
Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	0%	0%	0%	0%
Technical Reports :				
Adequate	6.9	6.8	7.3	6.2
Average	25.9	27.2	22.0	27.1
Inadequate	47.3	51.0	51.2	25.0
Not responded	19.9	15.0	19.5	41.7

TABLE 29
Documents
Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	0%	0%	0%	0%
Dissertations & Abstracts				
Adequate	19.3	19.4	22.0	14.5
Average	28.6	31.6	20.7	29.2
Inadequate	34.5	32.5	46.3	22.9
Not Responded	17.6	16.5	11.8	33.3

disciplines also. Feeling of such inadequacy is more among the Social Science scholars. The mean averages obtained in this regard are as follows :

	Sciences	Social Sciences	Humanities
Dissertations	1.74	1.65	1.72

Newspaper collection :

Obviously, newspapers provide current information on a variety of topics and subjects including Government policies and programmes and decisions. Sometimes, scholars have to use such type of information published in newspapers for their research purpose.

The results from Table 30 indicate on the whole, the scholars are not happy with the newspaper collection. About 53% of them consider it as inadequate. Such an inadequacy is almost uniform in all disciplines. However, such a feeling is somewhat more in Social Sciences. Though the mean satisfaction value of Humanities scholars is the lowest, it should be due to the fact that 48% of them have not responded to this question.

The mean averages are as follows :

	Sciences	Social Sciences	Humanities
Newspaper collection	1.69	1.67	1.59

TABLE 30

Documents

Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Newspaper Collection :				
Adequate	22.0	24.3	18.3	18.7
Average	24.4	24.3	29.3	16.7
Inadequate	28.9	29.6	34.1	16.7
Not Responded	24.7	21.8	18.3	47.9

Patent Collection :

The patent collection provides information relating to new inventions and innovations and the information included in these sources cannot be obtained from other documents. This type of information could be very valuable, especially for researchers in science disciplines.

It can be seen from Table 31 that the patent collection is viewed as very meagre and inadequate. This observation is uniform in individual disciplines also. Number of respondents who have not responded to this question is more, probably because either the patent collection is less or the scholars are not fully aware of the importance of such type of documents.

The mean averages in this respect are as follows :

	Sciences	Social Sciences
Patent Collection	1.41	1.67

Special Collection :

There are some special collections in the university library donated by eminent persons like Dr. S. Radhakrishnan, Sri Gidugu Rama Murthy Pantulu, Sri A.V. Bhanaji Rao, Sir K.V. Reddy Naidu and Sri K.V. Gopalaswamy. These collections are of unique nature in some subject fields. Some of them

TABLE 31
Documents
Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Patents :				
Adequate	10.4	11.2	11.0	—
Average	18.2	19.9	18.3	—
Inadequate	22.3	23.8	20.7	—
Not responded	49.1	45.1	50.0	—

contain rare books dealing with problems of Indians in South Africa. Similarly, Gopalaswamy's collection consists of an almost complete collection of modern Telugu plays. These collections thus have particular value for researchers in those fields. It is therefore, necessary to ascertain the extent to which such collections are being used by researchers. The information obtained from them is presented in Tables 32 and 33.

Awareness of Special Collection :

Table 32 shows that a moderate number of scholars (41%) are aware of the existence of special collection in the University Library. Such an awareness is present among scholars in individual disciplines also : Humanities (56%), Social Sciences (43%) and Sciences (37%). The Humanities scholars are much more aware of special collections and this could be because most of such collections contain more books on subjects of Humanities than in other discipline.

Use of Special Collection :

Table 33 indicates that the extent of use of the special collection is very limited in general. In the individual disciplines also those who often use such collection range from 12.2% to 16.7%. Most of the respondents are in the category of using the special collection rarely or not using it at all.

TABLE 32
Awareness of Special Collection
Percentage Distribution Faculty-wise

Awareness	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Yes	41.4	37.4	42.7	56.2
Doubtful	30.6	34.0	25.6	25.0
No	25.0	26.2	28.0	14.6
Not responded	3.0	2.4	3.7	4.2

TABLE 33
Use of Special Material
Percentage Distribution Faculty-wise

Frequency	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Often	13.1	12.6	12.2	16.7
Rarely	46.4	41.8	52.4	56.2
Never	34.5	39.8	28.1	22.9
Not responded	6.0	5.8	7.3	4.2

Regarding document collection, it is summarised as follows :

Sciences :

Science scholars find document collection of Abstracting Periodicals and Indexing Periodicals as adequate. Whereas the collection of documents in general books and reference books is considered as average. They also expressed that the collection of periodicals, reports is not adequate. These observations indicate that Science scholars in general are satisfied with the document collection and expressed their desire for the improvement of reports and periodicals collection in view of their research requirements.

If this finding is viewed from the point of view of a Science scholar, one can note that the university library should improve the collection in the areas mentioned above. A scholar is able to get sufficient literature from the books and reference books, while through abstract and indexing periodicals, he is unable to secure this information from the library.

Social Sciences :

The Social Science scholar has not listed out any type of document collection as being adequate or average. This is a

clear indication that the University Library has to improve its collection in Social Sciences to a very large extent. A Social Sciences scholar indicates that he has relatively lesser interest in research than a Science scholar. The library support is very essential for Social Sciences scholar, since literature forms the basic platform for his research activity.

Humanities :

Humanities scholars also do not find any particular type of document collection as adequate. However, he finds Documents in general, periodicals and dissertation abstracts as being average. The rest of the documents are considered as being inadequate in collection. As in the case of Social Sciences, the library has to improve the collection in Humanities. The views of Humanities scholars indicate that they are more susceptible to discontinue research as they constitute the highest percentage of scholars who make job trials.

If the library plays a key role for the Humanities and Social Sciences scholars in terms of providing adequate literature support, these scholars may conduct useful research without taking recourse to seeking out their livelihood.

LIBRARY FACILITIES

Library Tools and Techniques :

A well balanced and adequate collection of documents is a pre-requisite for a library in order to provide information support to research activity. Such a collection of documents will be of little use if it is not properly processed and made available to the users. The use of documents depends on the location of the library, arrangement of books on shelves, catalogues provided, reading facilities existing, and finally the atmosphere prevailing in the library. To elicit opinions of respondents about these aspects, each of these facilities is taken up separately and discussed in detail.

Library Catalogue :

Library catalogue is the most important single aid in the library to locate a given document in the library. It may be considered as a key to the total collection of the library. It provides information as to the availability of a document in the library, what books of an author or on a subject are there in the library, etc. Since it is the main source of approach to find a document, every care should be taken up to keep this index upto date so as to ensure an easy access to the total collection of documents.

At present, in the Andhra University Library, dictionary type of catalogue system is in use, following A.L.A. rules, with some modifications. And the subject headings are being provided on the basis of Sears list and library of Congress subject headings. The information obtained from the respondents about the extent to which readers are satisfied with the present catalogue system is presented in Tables 34-37.

As regards the general performance of the catalogue, Table 34 shows that scholars, in general, are satisfied with the catalogue. This feeling is seen among the scholars or individual disciplines also. The extent of such satisfaction ranges from 56% to 65% with the Science scholars constituting the largest percentage. The element of dissatisfaction is very limited and relatively more in Humanities scholars.

This feature is also evident from the mean averages obtained in this regard :

	Sciences	Social Sciences	Humanities
Library Catalogue :	2.53	2.50	2.49

TABLE 34
Library Catalogue
Percentage Distribution Faculty-wise

Satisfaction	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Satisfactory	62.8	65.5	56.1	62.5
Average	24.4	21.9	31.7	22.9
Not satisfactory	10.1	9.7	8.5	14.6
Not responded	2.7	2.9	3.7	—

A good majority of the respondents are satisfied with the library catalogue, though a few of them have mentioned that they have some problems like 'Cards Missing' and 'Wrong Filing,' etc.

Specific Approach to Catalogue :

In the dictionary type of catalogue, there are three parts : Author, Title and Subject which serve as means to reach a given document. Here the Author part is considered as the main part of the catalogue, wherein the full details of a docu-

ment are available. It is difficult for readers to remember the names of all Authors and Titles of books. Therefore, the subject approach is considered to be the dominant approach in the case of majority of readers. It is particularly so in the case of scholars who are generally concerned with a specific area of subject. It is, therefore, relevant to know to what extent respondents are in the habit of using these parts of the catalogue. Information elicited from the respondents in this regard is presented in Table 35.

TABLE 35
Principal Approach to Catalogue
Percentage Distribution Faculty-wise

Catalogue part	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Author	48.5	47.1	54.9	43.7
Title	27.7	27.7	19.5	41.7
Subject	21.1	22.3	25.5	10.4
Not responded	2.7	2.9	1.2	4.2

Most of the respondents are in the habit of using first the Author part of the Catalogue. This way of approach is also used by the majority of scholars in the individual disciplines. It is important to note that Humanities scholars are using Author part and title part more or less equally. Further, the Humanities scholars constitute the largest percentage of scholars using the Title approach. This could probably be due to the basic nature of the subjects in the Humanities which offer little scope to provide subject headings.

Problems with Catalogue :

As stated earlier, it is necessary to identify the problems of catalogue if any and rectify them in order to make it more perfect for the sake of users.

Specific Problems of Catalogue :

Table 36 shows that out of the problems mentioned 'Missing Cards' and 'Wrong Filing' are found to be the prominent among scholars in general. This trend of opinion is uniform in the individual disciplines also. These range from 28.6% to 42.7% in the individual disciplines.

TABLE 36
Specific Catalogue Problems
Percentage Distribution Faculty-wise

Problems	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
No Instructions	2.4	2.4	3.6	—
Wrong filing	16.1	12.6	24.4	16.6
Missing cards	17.8	16.0	18.3	25.0
Catalogue not convenient	3.3	1.9	4.9	6.3
Crowd at catalogue	4.2	4.9	1.2	6.3
Any other	0.3	0.5	—	—
Not responded	55.9	61.7	47.6	45.8

Other problems identified by the respondents are 'Crowd at the Catalogue' and 'Catalogue is not convenient' and 'No Instructions at the Catalogue.' These problems are not significant in general.

Specific Problems of Shelf Arrangement :

Information obtained regarding specific problem in relation to shelf arrangement is presented in Table 37.

'Books are not in order' appears to be the single major problem to respondents in general. This is equally true in the individual disciplines also. Another significant problem identified by the respondents is 'Shelf Area is Congested.' This

could be because the library book shelves are kept too close to one another due to lack of space in the stack area.

The other problem mentioned in this regard is 'Shelves are not convenient,' which is very insignificant. 'Books are not in order' is found to be the most significant problem faced by the respondents. This may be due to the reason that either sorters were not alert in their duty or negligent readers would be misplacing the books.

TABLE 37
Problems with Arrangement of Books
Percentage Distribution Faculty-wise

Problems	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Books not in order	52.1	50.9	54.9	52.1
Shelf not convenient	2.1	1.0	3.7	4.2
Shelf area congested	10.4	10.2	12.2	8.3
Any other	0.9	1.0	1.2	—
Not responded	34.5	36.9	28.0	35.4

Reading Facilities :

Besides having a good collection of documents and providing an easy access to the collection, it is also necessary for a library to provide sufficient reading facilities for readers who are expected to make use of documents in the library. Proper reading facilities such as lighting, ventilation and seating arrangements in the library will definitely add to the effective use of document collection by readers. Comfortable and convenient reading facilities help the readers to work for more hours in the library. Particularly, in the case of research

chers, it is essential to provide special arrangements to facilitate their serious work as they spend more hours in the library.

Number of cubicles available for scholars is very limited. And some of the cubicles had to be removed for want of space to accommodate book-shelves. About existing reading facilities, scholars' opinion is elicited and discussed below.

TABLE 38
Reading Facilities
Percentage Distribution Faculty-wise

Satisfaction	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Satisfactory	61.3	67.0	56.1	45.8
Average	26.8	22.3	28.0	43.7
Not satisfactory	8.9	8.7	12.2	4.2
Not responded	3.0	2.0	3.7	6.3

Reading Facilities in General :

Table 38 shows that 88% of respondents are happy with the reading facilities available in the library. This opinion is prevalent in the individual disciplines also.

Respondents who are viewing that existing reading facilities as satisfactory and average are about 90% in Sciences, 85% in Social Sciences and 90% in Humanities. In general, respondents are happy with the reading facilities available in this library.

Borrowing Facilities :

Just as in the case of reading facilities, it is also important to make provisions for lending books for home reading. It often happens that a reader may not complete his reading

of a document in the library and desires to read it at home. Moreover, the library timings may not be suitable to the reader. Therefore, it is necessary to make provision for lending books. Such a facility is also essential for researchers to consult a number of books simultaneously for their research purpose. Book tickets are generally provided to readers to take books on loan.

In the Andhra University library, scholars are provided with 10 fortnightly and 4 weekly tickets for borrowing books and periodicals. As the borrowing facility has some impact on the scholar's library use, an attempt has been made to ascertain the extent of use of such tickets and the adequacy of this facility. The information obtained from scholars is presented below.

Table 39 shows that the respondents are happy with the tickets provided. This opinion is also broadly reflected in the individual disciplines also. However, dissatisfied respondents are more in Social Sciences, which could be as a result of their inability to borrow the required number of books for their research.

TABLE 39
Library Tickets
Percentage Distribution Faculty-wise

Adequacy	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Yes	44.6	45.2	47.6	37.5
Some extent	44.6	45.6	35.4	56.3
No	7.8	6.8	10.9	6.2
Not responded	3.0	2.4	6.1	—

Use of others' Tickets :

In order to know how the respondents are meeting the extra need for borrowing books, information is elicited from the scholars which is presented in Table 40.

Most of the respondents did not respond to this question (Sciences 79.61, Social Sciences 80.48 and Humanities 75.0) Only a small portion of them felt the need and resorted to

TABLE 40
Borrowing Tickets From Others
Percentage Distribution Faculty-wise

Attitude	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Friends	41.4	42.9	37.5	41.7
Guide	14.3	11.9	25.0	8.3
Colleagues	24.3	19.1	31.3	33.4
Reading in the Library	7.1	7.1	6.2	8.3
Returning books for want of urgent books	5.7	7.1	—	8.3
Keep quite	2.9	4.8	—	—
Never happend	4.3	7.1	—	—

some method to meet such a need. They are meeting such a demand by taking tickets from friends, colleagues and guides. This opinion is uniformly the same in the individual disciplines also. Social Science scholars who borrow tickets from others are the largest (93.8%), who find the number of tickets inadequate.

Issuing Procedure :

The procedure adopted in the issue of books should be convenient and time saving. If there is any difficulty or defect in it, it will have an adverse effect on the use of documents and image of the library. To obtain scholars' opinions about the issuing system, Table 41 may be seen to find out that most of the respondents (75%) find the issuing procedure convenient. This feeling is uniform in the individual disciplines. On an average, only 20% of the scholars in each of the disciplines find the present procedure as time-consuming.

TABLE 41
Issue Procedure
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Convenient	75.0	76.3	70.7	77.1
Time consuming	20.2	18.9	22.0	22.9
Complex	1.5	1.9	1.2	—
Not responded	3.3	2.9	6.1	—

Working Hours :

The library working hours should be suitable to readers. These should be adjustable with the academic programmes of the university to ensure better utilisation of its collection by its users. It is very important to provide convenient working hours for researchers who make use of the library for long hours. As per the norms generally accepted (as laid down by the U.G.C. Committee), the university library should work at least 12 hours a day. The opinion of the scholars about the present working hours of the library can be gauged from Table 42, which shows that more than half of the respondents

(56%) are satisfied with the present working system. This finding is in line with the trend observed in individual disciplines also. However, dissatisfied respondents are significantly more in social sciences (24.4%), when compared to Sciences (18.9%) and Humanities (8.3%). This could be perhaps due to the Social Science scholars depending more on library for their research work and the closing down of the library by 8-00 p.m. could hamper their research work. It is pertinent to mention here that after this survey is conducted the library timings are extended to 10-00 p.m. in the night.

TABLE 42
Library Working Hours
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Satisfactory	55.6	56.8	54.9	52.1
Average	21.4	20.9	14.6	35.4
Not Satisfactory	18.8	18.9	24.4	8.3
Not responded	4.2	3.4	6.1	4.2

Library Publicity :

Publicity is a very important factor not only in business but also in the library to keep its clientele aware of its collection. There is every necessary to communicate to the users about their holdings by using all possible means and methods. Particularly, research scholars must be kept informed with the latest developments in the fields of their interest. Information obtained from scholars in this regard is presented in Table 43, which shows that a majority of respondents (62%) generally came to know about new books through

library catalogue and personal enquiry. These two methods of communication appear to be common in individual disciplines also. Besides, some respondents are getting information through friends and library communication (new arrivals list displayed on the library bulletin board). However 17% avail this method. It appears that there is every need to adopt effective measures to communicate information about new library acquisitions to the user community.

TABLE 43
Library Publicity
Percentage Distribution Faculty-wise

Means	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Library Communication	17.5	17.9	17.1	16.7
Through friends	14.0	16.0	12.2	8.3
Library Catalogue	37.5	40.8	28.1	39.6
Personal Enquiry	25.0	22.3	26.8	33.3
Any other	1.2	1.5	—	2.1
Not responded	4.8	1.5	15.8	—

Location of the Library :

The nearness of the library to the departments may have some effect on scholar's library use. In an ideal situation, the library should be located in the centre of the reading community within easy reach of the majority of users. Since research scholars work more hours in the library, the location definitely affects their library use. In order to ascertain the opinions of scholars about the location of the library, the information is given in Table 44, which shows that respondents are happy (56%) with the location of the library.

TABLE 44
Distance between Library & Workspot
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Satisfactory	55.6	43.2	73.2	79.1
Average	25.9	35.0	11.0	12.5
Not satisfactory	14.0	18.4	8.5	4.2
Not responded	4.5	3.4	7.3	4.3

This trend of opinion is the same in the individual disciplines also. Further there are more respondents of Social Sciences and Humanities among the satisfied group. The obvious reason for this is that the University Library is at present located by the side of the Arts College where most of the Social Sciences and Humanities departments are situated, whereas the Science College buildings are situated at a comparatively more distant place.

General Atmosphere in the Library :

The need to maintain proper and congenial academic atmosphere and quietness in the library to facilitate effective use of the library by readers for maximum hours cannot be underestimated. If the atmosphere is not congenial readers may be generally reluctant to come to the library. As a measure to ascertain the views of respondents about this feature of the library it is elucidated in Table 45, which indicates that in general the respondents are happy (about 50%) with the atmosphere in the library. However, there is an element of dissatisfaction, though very less.

TABLE- 45

General Atmosphere in the Library
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Satisfactory	47.9	48.1	48.8	45.8
Average	37.5	39.3	29.2	43.7
Not Satisfactory	11.3	10.2	17.1	6.3
Not responded	3.3	2.4	4.9	4.2

Attitude of Library Staff :

Books being mute, cannot speak out and there must be somebody to indicate the right book to the right reader. The library staff have therefore great responsibility. Though onerous to provide personal assistance to the readers whenever they are in need of it. If the number of staff is small, it may be a difficult task for them to extend such a personal help to all readers. However, the library staff should try to help readers with a service motive. Especially, for researchers such a personal service is of immense help in finding relevant information for their research work.

As regards the general relations with the library staff, the respondents are happy and are maintaining good relations. This view is the same in the individual disciplines also. Such a feeling is more among Humanities respondents when compared to other disciplines (Table 46).

TABLE 46
Relation with Library Staff
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Satisfactory	39.3	41.3	24.4	56.3
Average	38.7	36.9	52.4	22.9
Not satisfactory	18.4	19.9	17.1	14.6
Not responded	3.6	1.9	6.1	6.2

Staff Help :

Table 47 indicates that majority of the respondents are getting staff help 'sometimes' only. This feeling is also the same among respondents of the individual disciplines. However, the extent of satisfaction is more (41.6%) in Humanities than in other disciplines. Table 46 indicates that Humanities scholars are more satisfied in their relations with the library staff, with the result that they get the staff help more frequently (92%).

TABLE 47
Staff Help
Percentage Distribution Faculty-wise

Frequency	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Always	22.0	19.9	15.8	41.6
Sometimes	63.1	64.1	68.3	50.0
Never	11.9	13.6	12.2	4.2
Not responded	3.0	3.4	3.7	4.2

About Library facilities, it can be summarised as follows :

Sciences :

Science scholars express satisfaction with the facilities in the library, viz., Catalogue, reading facilities, working hours, issue of books, relation with the library staff and general atmosphere in the library. They are partially dissatisfied with arrangement of books on the shelves and library tickets. So much so, Science scholars are satisfied with most of the facilities of the library. And if the library can increase the number of tickets and take a proper care in the arrangement of books, as well as updating the catalogue continuously, it will be doing a lot of good service to them in terms of providing complete support for their research.

Social Sciences :

Social Sciences scholars are satisfied with the catalogue, reading facilities, available number of tickets, issue procedure, working hours and general atmosphere in the library. They expressed their dissatisfaction with the arrangement of books, provision of cubicles and relations with the library staff.

As in the case of Science scholars, the Social Sciences scholars are also satisfied with most of the facilities of the library. The mode of using catalogue by Social Science scholars in locating a book are through Author and Subject index. On the other hand, scholars of Sciences and Humanities use the Author and Title indexes mostly. This could be because the subject index is well prepared in Social Sciences. The need for cubicles is more apparent among Social Science scholars, which is understandable in view of Social Science scholars spending more time in the library, and that they would like to have separate space where they can work undisturbed.

Humanities :

Humanities scholars like their counterparts in Sciences and Social Sciences are Satisfied with all the facilities provided in the library. Further like Science scholars, they express their dissatisfaction with the inadequacy of library

tickets and like Social Sciences scholars, they express their dissatisfaction as regards the provision of cubicles. However, they agree with both of them that the arrangement of books on the shelves is not satisfactory.

On the whole, the findings regarding the library facilities clearly indicate that the research scholars in general are dissatisfied with the arrangement of books on the shelves. The implication of this is that if the library can take proper care in the arrangement of books, it will be saving a lot of scholars' valuable time, which would have otherwise been spent on research work only. Except for this, the scholars seem to be satisfied with the rest of the library facilities.

Chapter VIII

LIBRARY SERVICES

Library being as service institution, its main task is to provide information to its clientele. Such task has become increasingly complex and as such difficult for the librarians to keep pace with the increase in the growth of knowledge, number of scholars and their information needs. Research scholars in the universities generally choose narrow subject fields for their investigation. The information they require is usually spread over a wide range of subjects and in a variety of document sources. Moreover, the information needs of each researcher is unique in the sense that his pursuit and his library needs cannot be fully anticipated initially. Nonetheless, it is the responsibility of the university library authorities to provide required information in a form and fashion that is required by researchers.

The kind of information services necessary for scholars depends on the nature of the project taken up and the field of investigation also. Since scholars may be considered as specialists in the field, they need intensive library services, that is, personal-oriented or project-oriented information services.

Existing Library Services :

In a quest to know the suitability and usefulness of the existing services in the library, a scholars' point of view is gathered by which it can be possible to identify any inadequacies within the available services. Accordingly, scholars were asked to give their opinion as to what extent they were satisfied with the following services in the library :

1. Reference Service ;
2. Inter-Library Loan Service
3. Reprographic Service ;
4. Translation service ; and
5. Microfilm reading facility

The information obtained from scholars is presented in Table 48 to 53.

Reference Service

As Dr. Ranganathan stated, Reference Service is the hub and ultimate object of all library activities. The very aim of this service is to extend personal assistance to users in finding their documents in the library. Such a personal assistance will definitely enhance the use of the library and its documents. The need for such service is more for researchers who have to gather a lot of information from different source documents and are mainly dependent on this service for their research work. It is therefore, appropriate to know the opinions of scholars regarding their satisfaction with the reference service.

The results (Table 48) indicate, that the scholars in general are happy with reference service offered in the library. This trend of opinion is also prevalent in individual disciplines. However, there is an element of dissatisfaction among Social Science respondents, which may be for the reason that the number of developed Abstract and Indexing periodicals in the field of Social Sciences are comparatively less and the nature of research topics often relates to a wide range of subject areas. Hence, they are more in need of reference service. Though a little less, the Humanities scholars consider the services as average.

Inter-Library Loan Service :

Inter-Library Loan Service involves the process of lending books from one library to the other on loan basis for the sake of their users. It is one effective method to overcome the inadequacies in the collection of documents in a particular library. No university library can acquire a comprehensive

collection to satisfy all information needs of its clientele, because of resource limitations and the information published in a variety of documents. If there is no possibility to borrow books from other libraries on inter-library loan, the research work may sometimes be hampered. Hence, the university library should develop a good inter-library loan system for this purpose.

TABLE 48
Library Services
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Reference Service :				
Satisfactory	56.5	65.5	36.6	52.1
Average	35.1	26.2	52.4	43.7
Not satisfactory	5.7	5.4	7.3	4.2
Not responded	2.7	2.9	3.7	—

In order to know as to what extent respondents are getting benefit out of this service in the present context, it is found from Table 49 that most of the respondents are not happy with the inter-library loan facility the library has at present. They might need books which are in other university libraries, and if it is not possible to borrow them, it leads to dissatisfaction. Somewhat similar findings are also observed in the Social Sciences and Humanities, where the scholars find this facility as average.

Reprographic Service :

Reprographic equipment has become a necessary tool in modern library. The need for such service is more relevant in university libraries, where users often wish to have the copies of an article or a piece of information by paying a

nominal cost. The use of this service is more useful in the inter-library loan system. When a library is not in a position to spare a document on loan, at least it can supply a copy of the same. Therefore, the need for reprographic service is quite obvious for the researchers particularly.

TABLE 49
Library Services
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Inter-Library Loan :				
Satisfactory	17.9	15.5	21.9	20.8
Average	31.5	34.0	23.2	35.4
Not satisfactory	35.1	33.0	43.9	29.2
Not responded	15.5	17.5	11.0	14.6

The Andhra University Library has acquired a machine and is at present providing such service. As a measure to know the extent of benefit the researchers are getting out of it, it is indicated in Table 50 that most of the respondents are not happy with the reprographic service available in the library. The respondents in individual disciplines are also having the same opinion. It could be for the reason, that the demand for this is increasing day by day and machine at present is being operated by a non-technical man, and in the event of break down the machine is being kept idle. As a result, users are suffering due to lack of proper and efficient service.

Translation Service :

Translation service in the context of the library implies the process of translation of an article or a report from a foreign language into a known language for the sake of

readers. The need for providing such facility often arises in university libraries for researchers. The I.N.S.D.O.C, New

TABLE 50
Library Service
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Reprographic Service :				
Satisfactory	14.9	16.5	11.0	14.6
Average	33.3	34.0	25.6	43.7
Not satisfactory	33.9	33.0	41.5	25.0
Not responded	17.9	16.5	21.9	16.7

Delhi, as a National Documentation Centre is supposed to provide such a facility for users of the university libraries in India. Andhra University Library is at present providing such a service to a limited extent. In order to know the opinions of respondents in this regard, the findings are given in Table 51 which show that one-third of the respondents in general, and in individual disciplines have not responded to this question, either because they are not aware of such facility, or they do not need such a service.

Micro-film Reading Facility :

Now-a-days, it is common that publishers, while publishing journals, are producing simultaneously the same information in micro-form, reducing the size. Since it is a byproduct, its cost is comparatively less and it can be preserved for a long time. It requires less space to store in the library.

Modern libraries are increasingly acquiring such type of documents as Micro-film, micro-fische or micro-strip, in view of economy and in order to overcome space problems in the libraries. It is particularly suitable to acquire backsets of

journals and reports. But along with these materials, it is equally necessary to acquire the reading equipment to make use of such material. There is at present a small collection of micro-form literature in the library. It is appropriate to know the extent to which such a collection is being used by scholars in the present context.

TABLE 51
Library Services
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Translation Service :				
Satisfactory	3.9	3.4	3.7	6.3
Average	11.6	13.1	8.5	10.4
Not satisfactory	52.7	52.9	52.4	52.1
Not responded	31.0	30.6	35.4	31.2

As in the case of translation service, about 30% of the respondents in general and in individual disciplines have not responded to this question (Table 52). The earlier observations made regarding the lack of awareness of the facilities or lack of need of such service can be extended to this services also.

Required Services :

As in the case of existing service, it is also pertinent to know scholars' further information needs and the kind of services which they cherish most in view of their research work in different disciplines. The kind of information services required largely depends on the nature of the research work and field of investigation. For instance, the research activity in Sciences is mostly laboratory-oriented, whereas in the case of Social Sciences and Humanities, it is document-oriented.

Therefore, it is necessary to know the kind of service they need for their research work so that the library can plan to provide such services in future.

TABLE 52
Library Services
Percentage Distribution Faculty-wise

Opinion	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336	206	82	48
	%	%	%	%
Micro-Film Service :				
Satisfactory	6.5	7.3	4.9	6.2
Average	24.4	25.2	23.2	22.9
Not satisfactory	39.6	38.3	41.4	41.7
Not responded	29.5	29.2	30.5	29.2

The library profession has already developed some services which are very appropriate for researchers. A list of such services is provided in the questionnaire with a brief explanation in each case and scholars were asked to indicate the importance of such services in view of their research needs. The aim of including these services in the questionnaire is to know the relative importance of these services as assessed by the scholars.

It is obvious from Table 53 that the services like Documentation Service, Literature search Services, Current Awareness Service and Reference Service rank high and are considered as foremost by the majority of the respondents. These preferences are also found in the individual disciplines. These services put together comes to 61.7% in Sciences, 63.7% in Social Sciences and 65% in Humanities. This evidently shows the relevance and suitability of these services to their research work.

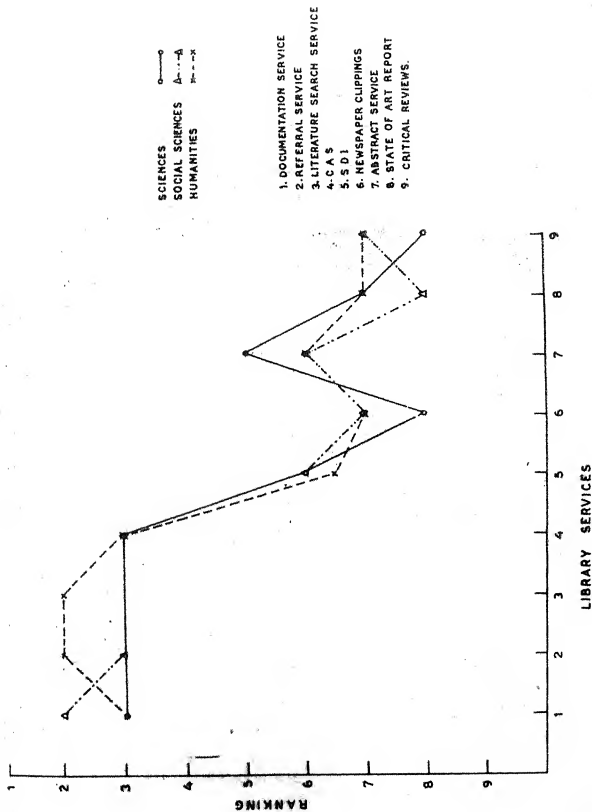
TABLE 53

Required Services
Percentage Distribution Faculty-wise

Service	Sample Size			
	Total	Sciences	Social Sciences	Humanities
	336 %	206 %	82 %	48 %
Documentation Service	16.6	16.1	17.2	17.3
Reference Service	15.1	14.3	15.9	17.2
Literature Search Service	15.9	15.6	15.9	17.1
Current Awareness Service	15.2	15.7	14.7	14.4
Selective Dissemination of Information Service	8.9	9.2	8.8	7.7
Newspaper Clipping Service	5.7	5.5	6.3	5.8
Abstract Service	10.4	11.4	8.8	8.4
State-of-Art Report	5.4	5.4	5.3	5.6
Critical Reviews	6.8	6.8	7.1	6.5

Note : The weight given to each item is the same as what the respondent had given as his own order of importance. The weighted values in the schedules are added up and percentage distribution arrived at.

Besides, they also find some importance and need for the services like Abstract Service, Selective Dissemination Information, as required services next in their preference. The importance of these two services ranges from 16.1% to 19.3% in the individual disciplines.



Other services mentioned by the respondents in this regard are : Critical Review Service and Newspaper Clipping Service and State-of-Art Report Service. However, their preference is negligible.

The results regarding Library Services can be summarised as follows :

Sciences

Science scholars are satisfied with only the Reference Service. They are partially satisfied with the Inter-Library Loan Service and Reprographic Service. They are dissatisfied with Translation and Micro-form facilities. The number of respondents who have not answered the questions relating to Reprographic, Translation and Micro-form facilities are considerably more in number. Hence, it can be concluded that Science scholars are more or less dissatisfied with the services provided by the library.

Social Sciences

Social Sciences scholars are partially satisfied with the Reference Service and dissatisfied with all other services. This is an indication that the library has to improve in terms of services to Social Science scholars, which are very important by virtue of the fact that Social Science Scholars depend much on the library and if the library support is not provided, the scholars work will be hampered, affecting their motivation.

Humanities

Humanities scholars have the same opinion as the Science scholars regarding the services being provided by the library. They are aware or at least satisfied with the services.

It can be mentioned that scholars of all disciplines indicate and agree that the four library services that are very essential for their research are : Documentation Services, Literature Search Service, Reference Service and Current Awareness Service.

It can therefore be concluded that these are the most important services which a library should provide from the

*A table of mean averages worked out is given in Appendix 4.

point of view of research scholars. There is no alternative to this.

Respondents' Suggestions

As a final part of questionnaire respondents were asked to give suggestions for the improvement of the library from the view point of their research needs. As the answers are not convenient to present in a tabular form, they are presented here under different broad subject headings covered in the analysis part earlier.

Respondents cooperated in this respect on the understanding that their opinions would be kept confidential. Thanks to this assurance, several respondents were very frank and free in expressing their opinions on different aspects concerning this study.

Book Collection in the Library

1. Latest books should be acquired promptly soon after their publication.

2. The library and the faculty departments should cooperate with each other more effectively to build up good document collection.

3. Sufficient financial provisions should be made by the University to acquire documents required for research activity.

4. More attention should be paid to acquire conference reports*, seminar proceedings, etc., concerned with research work.

5. More number of latest foreign periodicals should be obtained as the present periodical collection is not quite adequate.

6. Gaps in the back sets of periodicals should be filled up immediately.

7. Old copies of documents must be xeroxed and kept in the library for use.

8. Microfilm copies of all theses and dissertations of all Universities may be procured.

Selection, Acquisition and Processing of Documents

1. Every effort should be made to reduce the time lag in the acquisition and processing of documents.
2. If a book or a periodical is not available through normal channels at least a photo-stat copy of it should be acquired and kept in library.
3. Journals stopped for want of money may be continued.
4. Title of the journal should be written on the spine of the bound volumes of periodicals.
5. Subject index must be improved. Detailed subject headings should be provided. Where necessary library should seek the help of subject specialists in this regard.

Arrangement of Books on the Shelves

1. Books on the shelves should be arranged promptly.
2. Frequent checking of shelves is very essential.
3. More space between shelves should be provided.
4. Catalogue needs thorough checking.

Library Facilities

1. Term tickets should be issued to scholars.
2. Cubicles should be provided for scholars.
3. Assistance while using micro-film equipment may be provided.
4. Printed material should be allowed to be taken inside the library.
5. There should be a big board showing various sections in the library.
6. Library should conduct orientation courses to scholars.

Staff Attitude towards Scholars

1. The library staff should be more service minded and come forward to help readers.
2. The library staff must aware of their duties and responsibilities and discharge them properly.
3. Staff is not always cooperative in tracing books.

Library Services

1. Documentation service should be provided.
2. Subject specialists should be appointed to help research workers.
3. Prompt photo copy service should be provided.
4. Reservation service may be restored.
5. Extension of issue and returns of books may be provided through out the library working hours.
6. Translation service should be provided.
7. A descriptive pamphlet giving the available facilities and services should be made available to all users.
8. There should be a separate section in the library to take care of research scholars' needs.
9. Information regarding new arrivals should be communicated to departments promptly.

General Aspects

1. Supply of drinking water in each floor should be provided.
2. Ventilation and cleanliness should be improved in the library.
3. General gossip in the library should be avoided.
4. Removal of fines is advisable.
5. Convenient furniture should be provided in the library. Steps may be taken to control bugs immediately.
6. Library should work on all summer Saturdays and holidays also.
7. A canteen should be opened near the library.
8. This library should be developed and maintained like I.I.T. Libraries.
9. Library should be fully airconditioned.

TABLE 54
Growth of Universities in India

Period	Universities	Demand Universities	Total	% increase to the total
1857-1899	5	-	5	3.3
1900-1909	..	--	5	-
1910-1919	5	-	10	3.3
1920-1929	11	-	21	7.2
1930-1939	3	-	24	2.0
1940-1949	10	-	34	6.5
1950-1959	23	2	59	16.3
1960-1969	35	8	102	28.1
1970-1979	24	4	130	18.3
1980-1988	23	-	153	15.0
				100.0

Note : Universities growth :

Before Independence : 22.2%

Post Independence : 77.8%

Source :

Association of Indian Universities -- Handbook, 1985.

TABLE 55

Mean Value of Different Library Facilities
Faculty-wise

Facilities	Sciences	Social Sciences	Humanities
Literature on Research Topics	2.08	2.00	1.95
Book arrangement	2.11	1.97	2.04
Library Catalogue	2.53	2.50	2.49
Staff relation	2.16	2.08	2.43
Reading facilities	2.52	2.50	2.40
Working hours	2.37	2.36	2.50
Distance between Library & Workspot	2.21	2.69	2.70
General atmosphere	2.36	2.33	2.45

Note : The weights given are as follows :

Adequate	3
Average	2
Inadequate	1

TABLE 56
Mean Value of Different Types of Documents
Faculty-wise

Type of Document	Sciences	Social Sciences	Humanities
Books	1.97	1.93	1.76
Reference Books	2.00	1.75	1.85
Periodicals	1.97	1.63	1.78
Abstract Periodicals	2.17	1.78	1.53
Indexing Periodicals	2.07	1.75	1.55
Reports – General	1.60	1.68	1.53
Conference Reports	1.44	1.53	1.51
Technical Reports	1.45	1.40	1.46
Dissertations	1.74	1.65	1.72
Newspapers	1.69	1.67	1.59
Patents	1.41	1.67	1.21

Note : The weights given are as follows :

Adequate	3
Average	2
Inadequate	1

TABLE 57
Mean Values of Different Types of Services
Faculty-wise

Service	Sciences	Social Sciences	Humanities
Reference	2.59	2.25	2.41
Inter-Library loan	1.67	1.70	1.90
Reprography	1.78	1.54	1.74
Translation	1.31	1.25	1.35
Microfilm	1.52	1.36	1.48

Note : The weights given are as follows :

Adequate	3
Average	2
Inadequate	1

CONCLUSIONS AND RECOMMENDATIONS

Conclusions :

1. Scholars' Background Profile

The research scholars included in the present sample have registered for research in Andhra University for the reasons that it is their Alma Mater, and that good research facilities are available. Further, they have taken up research to earn a higher qualification.

A comparison across the discipline indicates that science scholars are more motivated to do research. On the other hand, social science and humanities scholars expressed desire to discontinue research and go for a job. However, they have indicated that they would like to do research, while working.

2. Library Document Resources

Research Scholars of the sample express dissatisfaction with certain library resources like periodicals and reports. At the same time, they indicate that the collection of the other sources is just about adequate. In other words, they would like the collection to be improved.

A comparison across the disciplines indicates that it is science scholars who are more satisfied with the library resources in general. This conclusion implies that the library support being provided in terms of documents is being beneficial mostly to science scholars only.

3. Library Facilities

With regard to this aspect of the library, research scholars in general and in individual disciplines have no

complaints except for the arrangement of books and the number of tickets available and to a little extent the condition of the catalogue. This finding implies that as far as the fixed features of the library are concerned, the scholars are happy.

4. Library Services

Library Services is the particular area which is causing a lot of dissatisfaction among the scholars in general and in individual disciplines. They feel that this support of the library is very inadequate. This finding has many implications in that these special services have a lot of relevance to scholars. Library should not stop with providing a good collection of books and adequate facilities. It should provide efficient services which facilitate the scholar to do his work faster and more comprehensively. In other words, these services can be evaluated as the most important function of a library as far as research scholars are concerned.

Recommendations :

Based on the conclusions, the following general suggestions on various aspects of the library are offered. It is hoped that these suggestions would be useful to improve the library document sources, facilities and services from the point of view of research scholars in the campus.

I. Library Document Resources

At present, there appears every need to improve document collection in the University Library in order to provide required information support to the research community in the campus. The total holdings of the library may be large ; but in view of the researcher's information requirements, there is a need to improve the document collection in the areas where intensive research is being carried out in different disciplines. This could be for the reason that the selection and acquisition of books and periodicals and other reading material is not being done on sound selection policy taking care of the information needs of the research community. It should be done carefully basing on some devised plan following a systematic procedure, instead of haphazard methods. Building

up of a strong, balanced and comprehensive document collection in a university library to provide required documentary support to academic and research programmes in the campus is a difficult and onerous task to perform. However, the librarian has to take up this challenge and can rise to the occasion with the help and cooperation of the faculty and university authorities. The following suggestions are made in this respect :

(i) Formulating a sound and suitable book selection policy is the first and foremost thing to do in this regard. Such a policy should be made in consonance with the curriculum as well as research programmes of the university. It should be flexible and feasible for adoption in a given environment. It will be highly desirable to involve senior faculty members in the committee while formulating policy decisions relating to the library. Such type of cooperation may be achieved in the following manner :

(a) It is worthwhile to establish a committee like Library Academic Committee (L.A.C.) including the library and departmental staff, for each department. Such a committee helps to ensure easy flow of information between the library and departments in a friendly and academic atmosphere.

(b) If the circumstances would not permit to constitute such a committee, it is desirable if each department nominates a staff member as "Library Liaison Officer" (L.L.O.) to look after the library affairs in the department and can establish a good rapport with the library for the sake of users in the department. It is necessary that every communication relating to the library should be routed through the Liaison Officer only, and he should be made responsible for the development of library document collection, library facilities as also the departmental library.

(c) Similarly, it is useful to appoint subject specialists in the library, specially to look after the information needs of scholars in the assigned disciplines or subject areas in cooperation with Library Liaison Officers of the concerned departments.

(d) If it is not possible to appoint subject specialists in the Library, it would be ideal to provide necessary training or some orientation to the existing staff acquainting them with the specified disciplines or subject areas. Such orientation should help them to obtain the understanding about the development of the subject, its specialised areas, the nature of research, their information needs and the source documents which can provide information in those subject fields.

(e) Finally, the university library should make every effort to involve the faculty members and obtain their views in the improvements of library resources, facilities and services. Such a cooperation is considered to be an essential aspect to be taken into account in the library affairs, particularly in the University libraries.

(ii) As a preliminary step every effort should be made to identify the following aspects through user studies with the help of the faculty and research community :

(a) the subject areas where extensive research is being carried out in different subject fields ;

(b) the weak spots in the collection documents in those areas ;

(c) the gaps in the continuous runs of periodicals, reports, newspapers, etc., if any, in those subject fields ; and

(d) the kind of documents which are frequently used by the researchers in different disciplines.

(iii) Special attention should be paid to identify and acquire periodicals, reports, dissertation abstracts which are of immense value for research work in various subjects.

(iv) Similarly, every care should be taken to find out abstract and indexing periodicals which cover various subjects in research work. Such source documents are of immense value for researchers to scan through literature in the topics of their interest.

(v) Adequate provision should be made in the budget to develop document collection useful for research scholars, keeping in view the specific needs of individuals balanced against the total departmental programmes.

(vi) In the case of financial stringency, it would be ideal and economical to acquire backsets of periodicals or any such voluminous collection in micro-form, along with reading equipment.

(vii) The book acquisition policy should be to make an optimum utilisation of funds for the acquisition of documents for the sake of research community along with other academic workers in the campus.

Thus, the main aim of the University library should be to build up a strong and balanced collection of documents so as to ensure reading and reference material to the research scholars working in various disciplines along with the post-graduate students and teachers in the campus.

2. Library Facilities

i. Library Catalogue : The main catalogue in the University Library should be improved upto the required extent by rectifying the identified defects which are as follows :

(a) Unnecessary cards which are giving misleading information to users should be removed.

(b) Arrangement of cards should be in an order without causing inconvenience to users.

(c) Detailed subject headings should be given wherever necessary by the library taking the help of subject specialists in the field especially in the faculty of Social Sciences.

(d) Maintaining the catalogue should better be entrusted to a senior staff member in the library.

(e) Separate catalogues should be maintained for each type of collection and kept along with the collection so that readers need not come to the main catalogue often as it will facilitate the reduction of overcrowding at the main catalogue.

(ii) Shelf Arrangement : (a) The arrangement of books on the shelves should be as per the classified order. Every care, therefore, should be taken to keep the shelf arrangement in a specified order so as to ensure easy and quick way of locating required documents.

(b) Each stack room should be kept under the control of a senior staff member, who should be made responsible for the proper maintenance of the shelf arrangement in a perfect order.

(c) Required number of sorters should be provided in each stack room. And each stack room should be divided among the sorters, fixing up the individual responsibility to keep the books correctly at appropriate places in the shelves.

(d) Shelf rectification work should be done at least once in a fortnight.

(e) Frequent personal supervision in the stack-rooms by the staff will avoid to a great extent misplacements and carrying books from one room to another or any type of mutilation by users.

(f) It would be really worthwhile to provide personal assistance to readers in their search of the documents which incidentally redeems the problem of misplaced books.

(iii) Reading Facilities : (a) A quite and comfortable reading facility has to be provided for researchers to continue their studies for long hours in the library productively.

(b) Special arrangements of cubicles have to be made to facilitate researchers for calm reading without disturbance. Carrels have also to be arranged to a possible extent to facilitate serious reading. There should be a calm, quiet and convenient reading facility in the library.

(c) One copy of all important books and reference books should be kept in the textbook section, so that researchers can have ready access to the basic reference material.

(d) Theses, dissertations, etc., which are especially more useful in connection with research work should be kept in a separate section for ready use in the library.

(e) Titles of the journals should be written on the spine of the back sets of periodicals in an abbreviated form for easy location.

(iv) Borrowing Facilities : In view of the need expressed by the scholars, term tickets and few more fortnight

tickets should be issued to them to facilitate to take more books on loan.

(v) Library Publicity : (a) Publicity should keep the users well informed about their holdings and services available and it should be set up as a permanent programme for this purpose.

(b) Pamphlets giving details of collection, facilities and services available should be given to users free of cost.

(c) Information about new arrivals of documents in the library should be communicated properly to departments at least once in a fortnight.

(d) A selected list of books and reference book which have some research value should be communicated to the concerned people.

(e) A review of source documents available with subject coverage be published in a campus weekly under the column "Library corner."

(f) A small weekly consisting of less than 10 pages providing information about the library collection to all the readers in the campus under the title "Library Chronicle" be circulated.

(g) A catalogue of backsets of periodicals has to be supplied to each department for reference permanently.

(h) Every effort should be made to publicise the wealth of the books collection and nature of services available, so that each and every user will come to know the variety of documents pertaining to different subjects.

(i) Separate catalogues should be published for special collection of documents in the library for distribution among the faculty members and scholars.

(vi) Library Staff : Library being a service institution, its staff should be service-oriented. With a view to inspire staff members about their professional and moral responsibilities towards their clientele, the following guidelines are given :

(a) Every effort should be made by the librarian and the university authorities to inspire the staff members towards service motive.

(b) They should be made to feel that they are playing an important role in the service of its users for having an opportunity to serve the reading community.

(c) They should be allowed to participate in the conferences and seminars to get inspired professionally.

(d) They should be encouraged to express their views on various practical aspects, so that they continuously involve in the professional work and derive satisfaction out of it.

3. Library Services

Research scholars are specialists in the University because of the nature of their work being research and the topic of their interest would be narrow specific subject field. Similarly, their information demands are quite distinctive and special attention should be paid to meet their requirements in the organisation of the library in the following manner :

(i) In view of the quality of the service required, the university libraries should start a separate section like "Documentation Unit" for this purpose. It may be called in short 'UNIDOC.'

(ii) The UNIDOC should be fullfledged one with all necessary support like manpower, equipment and money, so that it can be run independently and as part of the main library.

(iii) A competent and fully qualified man should be made incharge of that unit and should be made responsible for achieving the set objectives through the unit.

(iv) It is ideal to appoint subject specialists to work in that section.

(v) UNIDOC should maintain a Reader's profile for each scholar at the time of joining the research work, such a profile should include his academic and research interests and his specific area interest. Such profiles will facilitate to correlate

the researchers' needs and the information obtained from different sources of documents from time to time.

(vi) In the absence of such profiles, UNIDOC should ascertain the specific needs of researchers working in different departments through user studies.

(vii) UNIDOC should adopt a suitable policy and procedure to render an efficient information service based on users' requirements.

(viii) Orientation programmes to scholars be given by introducing various kinds of source documents useful to their research work.

(ix) A bibliography of books and documents on the research topic for each scholar may be provided in the beginning.

(x) Bibliographies of selected articles that are pertinent to the scholars may be prepared and supplied.

(xi) Keeping the needs of researchers in view, UNIDOC should introduce special services like Documentation Service, Literature Research service and Current Awareness Service to the research community, whenever required.

(xii) A reprographic unit should be attached to UNIDOC so that immediate service can be rendered whenever requisitioned.

(xiii) It is worthwhile to provide translation service, though it is too costly to maintain such a unit. As an alternative, a panel of translators locally available may be maintained and so that the work can be entrusted to them when there is need for it.

In view of increase in the cost of reading material and increase in demand for information from readers side, a plan of resource showing among University Libraries in the State of Andhra Pradesh has been given in brief.

4. Resource Sharing in University Libraries

If libraries are run with an adequate collection of documents which are carefully selected and well organised with a

provision of well planned physical facilities, it would be possible to provide efficient information support to the research community in Universities. The university library also requires competent and qualified library staff to make use of the available library sources in a productive way in the selection acquisition and processing of reading material and disseminating information to the clientele.

However, one should admit that there are certain limitations for individual libraries to become self-sufficient. It can be noticed that research topics of university scholars deal with a number of subjects and the information they need spreads over a variety of documents. Therefore, the document collection in university libraries has to be wide in coverage and comprehensive in scope. Further, as result of the growth of knowledge, the subjects, specialisations and the concerned literature are giving by leaps and bounds since the beginning of the present century. In these circumstances, a library with its limited money, could select and acquire only a limited portion of the total documents available. As Allen Kent expressed, it is not possible for any single library to acquire even 1% of the total documents being published in the world.

Moreover, if each library goes on increasing its collection it would result on the whole in duplication of reading material. One cannot say that each library should not have a collection of its own. But as far as research material is concerned, it is not desirable to indiscriminately increase its collection. For instance, the expenditure involved in the subscription of a journal, say Chemical Abstracts, whose cost is about Rs. 64,000/- by all libraries is very huge. Its use in some libraries would be very limited. If on a cooperative basis such reference tools are acquired by a group of libraries, it will be beneficial for individual libraries for concentration of selected documents. Fussler states "the library literature for some years has acknowledged that no library can be autonomous in meeting a broad spectrum of research need. It is already difficult enough to secure materials in many instances from one local library."

How many libraries can afford to attain self-sufficiency? Can the U.G.C. or some other funding organisation can afford to finance university libraries to a unlimited extent for this purpose? As the answer would be in the negative, it is for the university libraries to survive successfully, serving the user community in which they function. The library has to respond to the changing environment and conditions and adopt suitable means and methods to achieve its goals.

Hence, libraries have to resort to some type of cooperation not only to buy books and other reading material but also to set up a mechanism for getting them from others through mutual exchange. Such a concerted activity is necessary to build up a storage dam to withhold the flood of information and make use of it when required. There is, therefore, an imperative need for cooperation among the university libraries to cater to the variety of information needs of researchers. The university libraries can as well say "united we stand; divided we fall." The standing and falling here relates to tackling the problem of information explosion. In fact, the efficiency of our future libraries largely depends not on how much they are spending, but on how extensively and efficiently they cooperate with each other in building up documents resources and in sharing them successfully. There is no other alternative to cooperation as it stands and this cooperation is technically called as Resource sharing.

Resource sharing in libraries implies sharing in document collection, processing and strong capabilities and services developed. The basic aim of resource sharing is to build up comprehensive document collection and develop information services in a cooperative spirit among the participating libraries for their mutual benefit. In other words, resource sharing is an amalgamation of sources of the participating libraries by creating a pool of information which can be used by users from any participating library. Though resource sharing, it is possible to provide relevant information to the largest user community at a comparatively low cost. The other advantages are :

(i) It would be possible to build up a fairly comprehensive collection of documents on all subjects, which is an impossible task for any individual library.

(ii) Though the number of users and the nature of their research activity rapidly increasing and the amount of information required by scholars is radically changing, it would be possible to serve a large research community in a satisfactory way through resource sharing.

(iii) Further, it would be possible to make use of advanced technology like photo-reproduction, computers, etc., in a cooperative venture productively and this can be utilised to create reference tools covering a wide range of subject fields, producing a number of information services useful to research workers economically.

(iv) Acquisition of documents on micro-form would help in solving the problem of space in developed libraries.

The first step in resource sharing is the formation of a consortium by the intending group of libraries. These libraries would initially provide information regarding the kind of resources available with them and the kind of services they are capable of providing and the extent of finance they can invest and are willing to pool up for this purpose. After ascertaining this information, the consortium would also decide as to what document collection are to be improved and services to be produced in each library. For instance, existing collection of documents in a subject could be the base for selecting individual library to improve the collection in the same area. In this way, all participating libraries would have a comprehensive document collection in all subjects and user would have an access to the collection of not only his library but also to other library collections in this consortium. However, resource sharing can be implemented only if the following conditions are fulfilled :

(i) Each participating library must be certain about its needs. Success in cooperation always depends on how far the aims and functions of participating libraries share common ground ;

(ii) Effective cooperation largely depends on the adequate resources, Administrative capabilities and efficient communication system among the participating libraries ;

(iii) Although the primary responsibility of each library must be respected to look after the interests of their users, each library must realise its mutual and moral responsibility to the Consortium and assume its share of contribution ;

(iv) All participating libraries have to maintain an attitude of friendly and cooperative spirit ;

(v) It is necessary to plan, design and work out a feasible inter-library loan system. The entire success of this scheme mostly depends on the efficient and smooth functioning of this inter-library loan system ;

(vi) Similarly, it is also essential to establish a good communication system to pass on information and documents from one library to another easily, quickly and efficiently. The efficiency of communication system depends on the use of the modern technology through computers, photo-reproduction and direct phone links, etc. Each library should possess such essential equipment ;

(vii) It is also necessary to bring out necessary library reference tools like union catalogue of serials, theses, monographs and dissertations of participating libraries for the proper functioning of the resource sharing venture ;

(viii) The concerned authorities should provide necessary finance for this project ; and

(ix) The library staff of the participating libraries should work with determination and faith for the success of this cooperative venture.

Resource sharing in India : It will now be seen as to whether resource sharing is possible in India and how it should be developed. There are good examples of successful functioning of resource sharing in Western countries, for instance, the Ohio College Library Centre, Ohio ; Middle Atlantic Research Libraries Information Network (MARLIN), Pennsylvania, New Jersey ; and Pennsylvania State University Libraries System, Pennsylvania, etc. In India, the U.G.C.

also made several recommendations in this regard. But, unfortunately there is hardly any university library in India that appears to have made this cooperation business successfully. The crux of the problem seems to be not due to lack of resources and need but probably due to lack of realisation of the importance and value of resource sharing among libraries on the part of the authorities, faculties and the university library staff. However, it is possible to solve some of the problems that university libraries confront at present. But it requires a proper planning and coordination of the participating libraries in achieving this task.

In the State of Andhra Pradesh, there are three well-established universities : Andhra University, Waltair, Osmania University, Hyderabad and Sri Venkateswara University, Tirupathi.

The present user study in Andhra University has indicated that it has an adequate collection of documents in science discipline. Similarly, if user studies are conducted in the two other universities, and such studies indicate that Osmania University Library has a good collection of documents in social sciences and Sri Venkateswara University Library has in Humanities, it would be possible for these university libraries to form into a Consortium and concentrate building up a comprehensive collection of documents in disciplines in particular institutions which have a strong collection from the stand points of needs of researchers.

In other words, what has just been proposed is an inter-University cooperative scheme in the State of Andhra Pradesh, which may be called as Andhra Pradesh University Libraries Network (APULNET). This concept of resource sharing can further be extendable to other aspects of the library, i.e., developing information services and improving processing and storing capabilities. In the present context, it would be possible to develop information service in the university libraries in the disciplines, which they specialise and extend such service to other libraries.

Further, it is possible to extend this type of resource sharing to other Universities and research organisations in

the State, making it possible to bring together all research institute libraries and build up document collection and services on specific subject areas. Similarly, if it is possible, such resource sharing venture can be extended to all the university libraries in other states, i.e., India, in which case it is possible to build up good research material and service on specialised subject fields also.

As far as India is concerned, it is the right time for introducing resource sharing programmes in university libraries, as it is about to adopt revolutionary computer technology coupled with the sophisticated facilities, Insat IB, etc. However, it is worthwhile to appoint a feasibility committee consisting of team of experts in the field to study the present situation and make appropriate suggestions in this regard.

In the present context, such a feasibility committee should discuss, plan and design the working details of the resource sharing project 'APULNET' and the points regarding the following steps or stages should be clearly enunciated :

- (i) Formulation of objective for the scheme and laying down of policy and goals for the future development ;
- (ii) Identification of essential components and pre-requisites for this project ;
- (iii) Assessment of actual information needs of research community and existing library resources of participating libraries with the help of user studies ;
- (iv) Development of a programme of action to be taken up on aspects relating to library document resources, facilities, services and communication channels to be adopted ;
- (v) Adopting suitable means and methods out of available alternatives on the basis of cost-effective study ;
- (vi) Assessment of financial requirements and sources of finance required for the project ;
- (vii) Evaluation of the work-in-progress periodically and if needed, suggestions for modification of plans and programme of action as per the situation ; and

(viii) Evaluation and review of the results achieved and if needed suggestions for modification in order to achieve given objectives efficiently and economically.

It is also good and beneficial to conduct a workshop among the staff of the participating libraries, inviting experts to discuss various problems that may arise in the implementation of resource sharing and finding alternative solutions to solve those problems and also to explore new avenues and areas of cooperation in the present context.

The U.G.C. which is taking care of the growth and development of higher education in India should come forward to give a helping hand by providing finance, guidance and encouragement for this type of projects in the country. In fact it has to give direction to all Universities to take up such aspects which promote integration and effectiveness of the education system in the country.

Since the State would be the ultimately getting the benefit out of this resource sharing projects, it should provide required finance for the establishment of such innovative ventures. Similarly, the university authorities should allocate a certain portion of their library budget to develop document collection and information services in stated subject areas in order to provide efficient information support to research scholars.

Therefore, resource sharing no doubt, would be an effective method, to solve many problems of the libraries, particularly in university libraries.

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